

State of Idaho
Department of Water Resources
Permit To Appropriate Water

NO. 29-07770

Proposed Priority: May 21, 1984

Maximum Diversion Rate:

5.72 CFS

This is to certify, that **CITY OF POCA TELLO**
P.O. BOX 4169
POCA TELLO, ID 83205

has applied for a permit to appropriate water from: **GROUNDWATER**
and a permit is **APPROVED** for development of water as follows:

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>RATE OF DIVERSION</u>
IRRIGATION	04/01 to 10/15	5.72 CFS

LOCATION OF POINT(S) OF DIVERSION: SENE Sec. 12, Township 06S, Range 33E
POWER County

PLACE OF USE: IRRIGATION

<u>TWN</u>	<u>RGE</u>	<u>SEC</u>	<u>ACRES</u>	<u>ACRES</u>	<u>ACRES</u>	<u>ACRES</u>	<u>TOTAL</u>
06S	33E	1	SWSE 9	SESE 9			18
		12	NENE 40	NWNE 40	SWNE 40		
			SENE 25	NENW 40	SENE 40		
			NESW 25	NESE 3	NWSE 15		268
Total number of acres irrigated:							286

CONDITIONS/REMARKS:

1. Proof of construction of works and application of water to beneficial use shall be submitted on or before January 1, 1991.
2. Subject to all prior water rights.
3. Prior to the diversion of water under this permit a flow measurement port or other device as specified by the Department shall be installed to provide for the installation of measuring equipment and the determination of the rate of diversion by the Department.
4. Permit holder shall comply with the drilling permit requirements of Section 42-235, Idaho Code.
5. The right to the use of water acquired under this permit shall not give rise to any right or claim against the holder of a senior right based upon the theories of forfeiture, abandonment, adverse possession, waiver, equitable estoppel, estoppel by laches or customary preference.
6. The Director retains jurisdiction of the permit and any license subsequently issued to incorporate the use into a water district, require streamflow augmentation or other action needed to protect prior surface water and groundwater rights.
7. The rate of diversion of water for irrigation under this permit and all other water rights on the same land shall not exceed cubic feet per second for each acre of land.

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DEC 14 1989

State of Idaho
Department of Water Resources**Permit To Appropriate Water**

NO. 29-07770

CONDITIONS/REMARKS:

8. The maximum rate of diversion for irrigation purposes under this permit shall not exceed 5.72 cfs.

This permit is issued pursuant to the provisions of Section 42-204, Idaho Code. Witness the seal and signature of the Director, affixed at Boise, this

7th day of December, 1989.

R. Keith Higginson
for R. Keith Higginson, Director

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DEC 14 1989

May 10, 1984

Form 202
3/78

Ident. No. 29-7770

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT

To appropriate the public waters of the State of Idaho

1. Name of applicant City of Pocatello Phone 234-6214 (208) 232-4311 ext. 175
Post office address P. O. Box 4169 Pocatello, ID 83205
2. Source of water supply ground water which is a tributary of _____
3. Location of point of diversion is S.E. $\frac{1}{4}$ of N.E. $\frac{1}{4}$ of Section 12 Township 6 S.
Range 33 E. B.M. _____ Power _____ County, additional points of diversion if any: _____

4. Water will be used for the following purposes:

5/18/84 5.72
Amount 6.7 for irrigation purposes from April 1 to Oct. 15 (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)
Amount _____ for _____ purposes from _____ to _____ (both dates inclusive)
(cfs or acre-feet per annum)

5. Total quantity to be appropriated:

5/18/84 5.72
a. 6.7 cubic feet per second and/or b. _____ acre-feet per annum.

6. Proposed diverting works:

a. Description of ditches, flumes, pumps, headgates, etc. 20" diameter deep well with
appropriate vertical turbine pump and motor to pump 6.7 cfs.
various sizes of irrigation mainline to accommodate flow.
b. Height of storage dam N/A feet, active reservoir capacity N/A acre-feet; total reservoir
capacity N/A acre-feet, materials used in storage dam: N/A
Period of year when water will be diverted to storage N/A to N/A inclusive.
(Month/Day) (Month/Day)
c. Proposed well diameter is 20 inches; proposed depth of well is 300 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: DEC 14 1989

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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	
6S.	33 E.	12	40	40	40	25	40			40	25				3	15			268
6S.	33 E.	1															9	9	18

Total number of acres to be irrigated 286

c. Describe any other water rights used for the same purposes as described above. None

9. a. Who owns the property at the point of diversion City of Pocatello
 b. Who owns the land to be irrigated or place of use City of Pocatello
 c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing N/A

10. Remarks This permit is being requested so that a well can be drilled on City owned property to supply irrigation water for a 280 acre farming operation at the City's proposed sludge management site. Treated sludge from the City's wastewater treatment facility will be stored during the winter months, then dried during the summer months and applied to the farm land as fertilizer and soil conditioner. Water from the well will be necessary to irrigate the various yearly crops. All surface water runoff will be retained on the site.

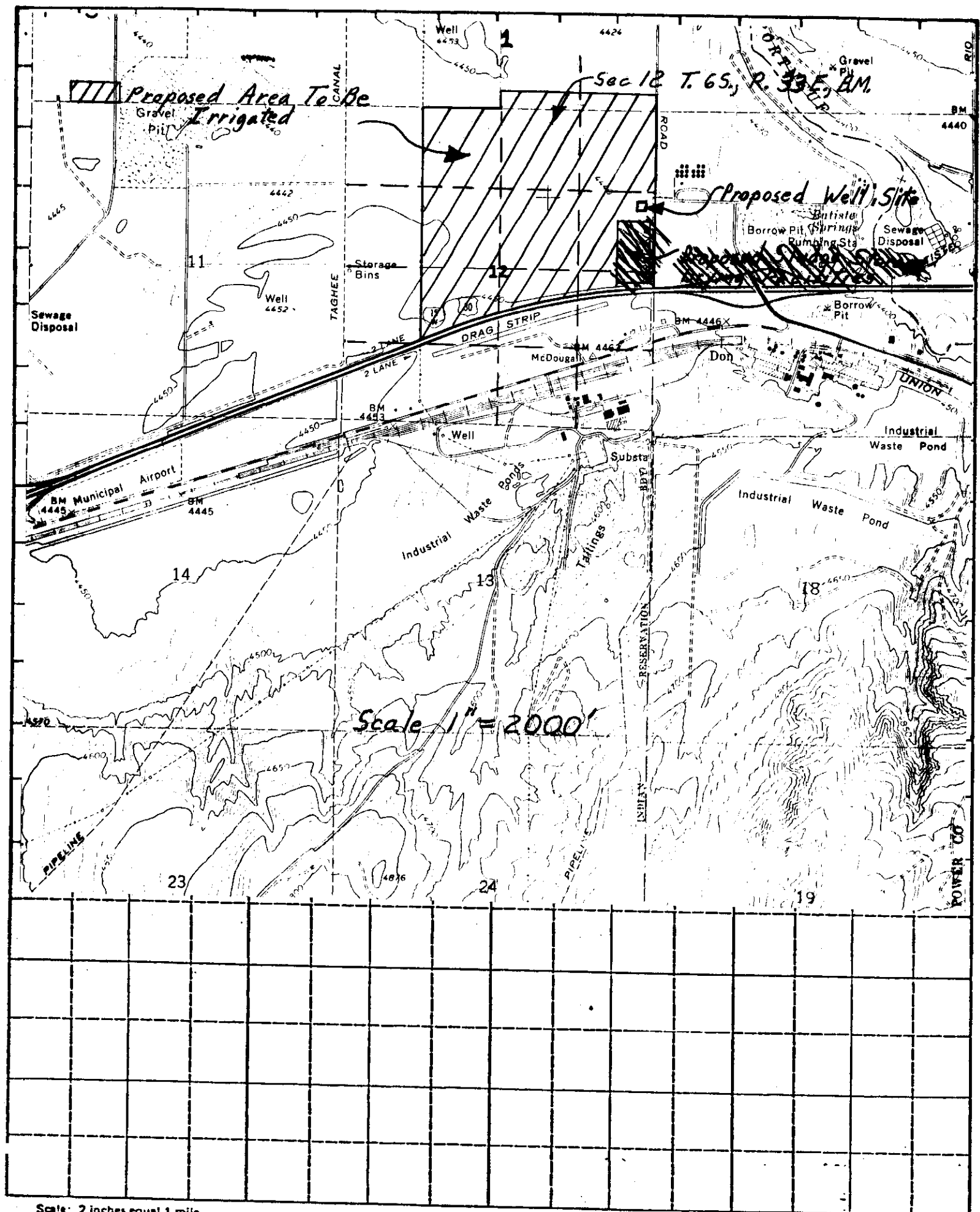
Change
as per
letter
HLS
10-17-89

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DEC 14 1989

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

See Attached USGS Map



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.

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DEC 14 1989

John C. Postlewaite
(Applicant)

Director of Public Works

Received by CW Date 5-21-84 Time 11:30
5-15-84 12:50
Preliminary check by HWT Fee \$ 145.00
Received by CW Date 5-21-84 # 33550
Publication prepared by RB Date _____
Published in Lower County Press
Publication dates 9-21-28-89
Publication approved _____ Date _____
Protests filed by: none

Copies of protests forwarded by _____
Hearing held by _____ Date _____
Recommended for (approval) denial by HWT

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

DEC 14 1989

Affidavit of Publication

State of Idaho

County of Power

Erma Crompton being first duly sworn on oath, states:

That she is the publisher of The Power County Press, a newspaper of general circulation in Power County, Idaho, published weekly at American Falls in said county, that said newspaper has been published in said county uninterruptedly and continuously for over seventy-eight consecutive weeks, prior to the first publication of the annexed notice or advertisement:

That the annexed notice or advertisement was published as per clipping attached in the regular and entire edition of said newspaper and not in any supplement thereof for 2 successive weekly issues thereof, the date of the first publication being the 20 day of September 1989 and the date of last publication being the 27 day of September 1989.

RECORDED
DEC 14 1989

State of Idaho

County of Power

On this 28 day of September in the year of 1989, before me, a Notary Public, personally appeared Erma Crompton, 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.

Brett Crompton

Notary Public for Idaho

Residing at American Falls, Idaho

My commission expires: June 8, 1993

Application for water rights

Published in The Power County Press,
Sept. 20, 27, 1989.

NOTICE OF APPLICATION FOR WATER RIGHT

The following application(s) have
been filed to appropriate the public
waters of the State of Idaho:

29-07769
ANDERSON, LYLE R.
RT. 1
AMERICAN FALLS, ID 83211

Source: GROUNDWATER
Diversion Pt: NESE Sec 15 T 08S R
30E
Use: IRRIGATION (.800 CFS)
Date Filed: 3/07/1984
In: T08S R30E S14 NESW NWSW
SESW S15 NESE NWSE
175.0 ACRES TOTAL

29-07770
CITY OF POCATELLO
P.O. BOX 4169
POCATELLO, ID 83205

Source: GROUNDWATER
Diversion Pt: SENE Sec 12 T 06S R
33E
Use: IRRIGATION (5.720 CFS)
Date Filed: 5/21/1984
In: T06S R33E S01 SWSE SESE
S12 NENE NWNE SWNE SENE
NENW SENW NESW NESE NWSE
286.0 ACRES TOTAL

35-08806
BOWLER RANCHES, INC.
P.O. BOX 760
AMERICAN FALLS, ID 83211

Source: GROUNDWATER
Diversion Pt: SESENE Sec 21 T 08S R
29 E
Use: STOCKWATER (.020 CFS)
COMMERCIAL (.020 CFS)
Date Filed: 8/23/1989
In: T08S R29E S21 SENE

The permit(s) will be subject to all
prior water rights. Protests may be
submitted based on the criteria of Sec.
42-203A, Idaho Code and/or the new
public interest criteria of Sec.
42-203C, Idaho Code. Protests must
be filed with the Director, Dept. of
Water Resources, 150 Shoup Ave.,
Suite 15, Idaho Falls, Idaho 83402 on
or before OCTOBER 9, 1989.

May 2, 1990

CITY OF POCA TELLO
P.O. BOX 4169
POCA TELLO, ID 83205

PROOF ACKNOWLEDGMENT LETTER

RE: PERMIT NO. 29-07770

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 conduct a field examination to determine and confirm the use being made of the water.

If you have questions concerning this matter, please feel free to contact the EASTERN Regional Office in Idaho Falls at (208)525-7161.

Sincerely,

Rita Fleck
Secretary/Records Manager

c: IDWR - Region

MICROFILMED

MAY 18 1990

1/88

PROOF OF BENEFICIAL USE

ANALYSIS SHEET

Permit No. 29-7770

Date: 2-16-90

General Considerations:

☒ Name same as permit
☒ Signature the same as permit holder
☒ Address change NO If yes, prepare a data entry
☒ Proof received timely
☐ Reinstated

Source of Water:

☐ Surface water
☒ Groundwater
NO 1. well log in file 1985
2. drilling permit
A. amount of drilling fee paid for proposed uses

Extent of Use and Rate of Diversion:

☒ Rate of diversion appropriate for uses
NO Is rate or volume and fee appropriate?
☒ Has permit holder indicated when water was first put to a beneficial use?

Measuring Device:

yes Is a measuring device or access port required?
yes Has one been installed?
no Waiver or modification of measuring device requested

Remarks:

Proof acceptable

n/a

Priority Calculation:
Date proof received

Date proof due

No. of days late

Priority date

NEW PRIORITY DATE

<u>NA</u>	
	-
	=
	+
	=

SEND FILES TO DATA ENTRY AND THEN TO MICROFILM

08-89
RECEIVED

DEC 15 1989

STATE OF IDAHO

DEPARTMENT OF WATER RESOURCES APR 5 1990

PROOF OF BENEFICIAL USE

Department of Water Resources

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

Permit No. 29-07770

Telephone No. (208) 234-6254

Name(s) of Permit Holder(s): City of Pocatello

Post Office Address: P.O. Box 4169

Source of Water: Groundwater

If ground water, well driller's name: Jack Cushman

Date drilled: 12/30/85 to 3/3/86

Extent of Use:

Domestic (No. of households)

Irrigation 286 (No. of acres)

Stockwater (No. and type of stock)

Other

Total rate and/or volume for which proof is submitted 5.72 cfs 600 acre/feet

Show date water was first diverted and beneficially used under this permit: May 01, 1989

One of the following may be a condition of approval of your permit:

Measuring device: Required? Yes ☒ No ☒ Installed? Yes ☒ No (Propeller Meter) ☐

OR

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

Fee Enclosed: \$ Paid (See License Examination Fee Schedule) (See IDWR Recpt. #33550 and City of Pocatello Check #2055, 5/10/84)

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

Jay B. Ulrich

(208) 234-6254

Name

Telephone No.

Box 4169

Pocatello

ID

83201-4169

Address

MICROFILMED

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.

MAY 18 1990

Date 12/12/89

Signature (and title if on behalf of a company or organization)

Signature: *J. B. Ulrich*
 Title: *DEC Superintendent*

March 5, 1990

City of Pocatello
P.O. Box 4169
Pocatello, ID 83205

RE: PERMIT 29-07770 - PROOF OF BENEFICIAL USE

Gentlemen:

Returned is the proof of beneficial use which you submitted on December 15, 1989 in connection with the above referenced permit.

In order for the proof to be acceptable, you need to submit the license examination fee in the amount of \$225.00. This is a different fee than referenced on your proof submittal as (IDWR Rec't #33550 and City of Pocatello Check #2055, 5-10-84). The fee paid in 1984 was an application for permit fee, not the licensing examination fee.

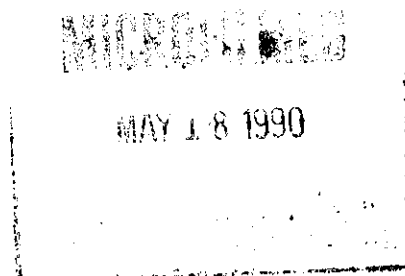
Please submit the fee within thirty (30) days in order for the proof to be acceptable and to keep the permit in good standing.

Feel free to contact the department if you have questions.

Sincerely,

RITA I. FLECK
Secretary/Records Manager

Enclosure



S T A T E O F I D A H O
D E P A R T M E N T O F W A T E R R E S O U R C E S

Statehouse
Boise, Idaho 83720
(208) 327-7900
December 8, 1989

CITY OF POCATELLO
P.O. BOX 4169
POCATELLO, ID 83205

P E R M I T A P P R O V A L N O T I C E

RE: PERMIT NO. P29-07770

Dear Permit Holder:

Enclosed is a copy of your approved application for permit. We direct your attention to the conditions of approval on the final page.

You should be aware that the groundwater you propose to divert is located within a drainage basin where surface waters are regulated during the months of low flow. It is possible that diversion of groundwater may have an adverse impact on these surface water flows. Information available to us at this time does not warrant refusing to issue permits in your area, but we do caution that diversions of groundwater are not allowed to deplete flows available for surface water users with earlier priority dates. Siting your well as far from surface sources as possible and casing out upper water producing zones may reduce the potential of interference.

Section 42-235, Idaho Code, requires that a "drilling permit" must be obtained from the department for all wells constructed after July 1, 1987. A drilling permit is a separate permit that must be issued in addition to your permit to appropriate water. Commencement of well construction or diversion of water under your permit to appropriate water is prohibited unless a drilling permit is obtained.

Be sure to note the special condition requiring you to install a measuring device, or a flow measurement port to provide for the installation of measuring equipment by the Department. Enclosed please find a list of measuring device options, and specifications for the installation of the flow measurement port.

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DEC 14 1989

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 this permit. Also enclosed for your convenience is a form entitled "Proof of Beneficial Use" that must be submitted to the Department when your project is completed. If development is complete, you may submit proof of beneficial use immediately.

Sincerely,

GARY SPACKMAN, Supervisor
Water Right Permits Section

GS: SC
Enclosures

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DEC 14 1989

MEMORANDUM

TO: File No. 29-7770
FROM: Gary Spackman *Gary*
DATE: November 24, 1989

RE: Submittal of Rule 4,5. Information

I have reviewed the information submitted by the City of Pocatello, and find that they have substantially complied with information submittal requirements of Rule 4,5. of the Water Appropriation Rules and Regulations. This application can be processed for approval.

INDEXED

DEC 14 1989

State of Idaho
Department of Water Resources

APPLICATION FOR PERMIT ANALYSIS SHEET

INITIAL REVIEW BY: HWJ APPLICATION NUMBER: 29-7770

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: 10-9-89
☐ 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? 29-P05
5-21-1984 Date of priority recommended.
Special conditions of approval or cover letter. Need Rule 4, 5, 1 data
Request sent 10-6-89

Condition - 20167
App. in NON-TRUST area -

By: HWJ Date: 10-17-89

STATE OFFICE REVIEW:

P05, P23, P03, P16 016 46 48 49 28 (irrig., 572 cfs)

- ☐ See attached sheet for more information.
By: KW

Date: 11/16/89

POINT OF DIVERSION AND STREAM INDEX INFORMATION

TRACT SEC TWP RGE gov't rediv. REACH
lot (R)

IDAHO STREAM CODE INDEX

TRACT SEC TWP RGE gov't rediv. REACH
lot (R)

IDAHO STREAM CODE INDEX

TRACT SEC TWP RGE gov't rediv. REACH
lot (R)

IDAHO STREAM CODE INDEX

TRACT SEC TWP RGE gov't rediv. REACH
lot (R)

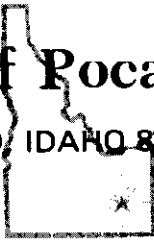
IDAHO STREAM CODE INDEX

TRACT SEC TWP RGE gov't rediv. REACH
lot (R)

IDAHO STREAM CODE INDEX

City of Pocatello

POCATELLO, IDAHO 83205-4169



MUNICIPAL BUILDING

P.O. Box 4169

902 E. Sherman

October 12, 1989

RECEIVED

OCT 17 1989

Department of Water Resources
Eastern District Office

Harold W. Jones
Water Resource Supervisor
Dept. of Water Resources
Idaho Falls, Idaho 83401

RE: Permit #29-0770, Additional Information

Dear Mr. Jones,

Contained herein, please find answers and information for the referenced Permit Application in accordance with your transmittal of October 11, 1989. Our comments are as follows:

- 4,5,3,1,2.- Please see attached map.
- 4,5,3,1,3.- We have installed a Center Pivot irrigation system to maximize irrigation efficiency.
- 4,5,3,2,1.-
 - Peak diversion rate - 1600 GPM
 - Average use rate - 1400 GPM
 - Volume of Diversion/Year - 600 AC. FT.
 - Water use period - 5/01 to 10/15
 - Consumptive Use/Year - 600 AC. FT.
- 4,5,3,2,2.- Please see attached USGS Water Quality Information.
- 4,5,3,6,2.- The project has been developed for agricultural irrigation of a 300 acre parcel of arid land. The crop rotation will be hard red winter wheat, soft white wheat, and barley. Approximately 20% of the irrigable land will be summer fallowed annually.

The permit application is in need of modification to reflect changes in the farm management plan which have occurred subsequent to filing the application. I have returned a copy of the permit with these changes. The modifications delete any reference to the storage or drying of sewage sludge upon the developed farm property.

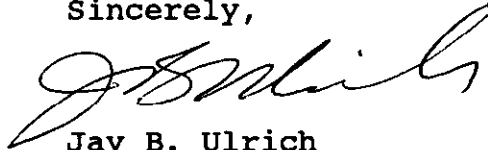
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DEC 14 1989

Harold W. Jones
Water Resources Supervisor
Page 2

Please call or write if any additional information or clarification is necessary.

Sincerely,

A handwritten signature in cursive script, appearing to read "J B Ulrich".

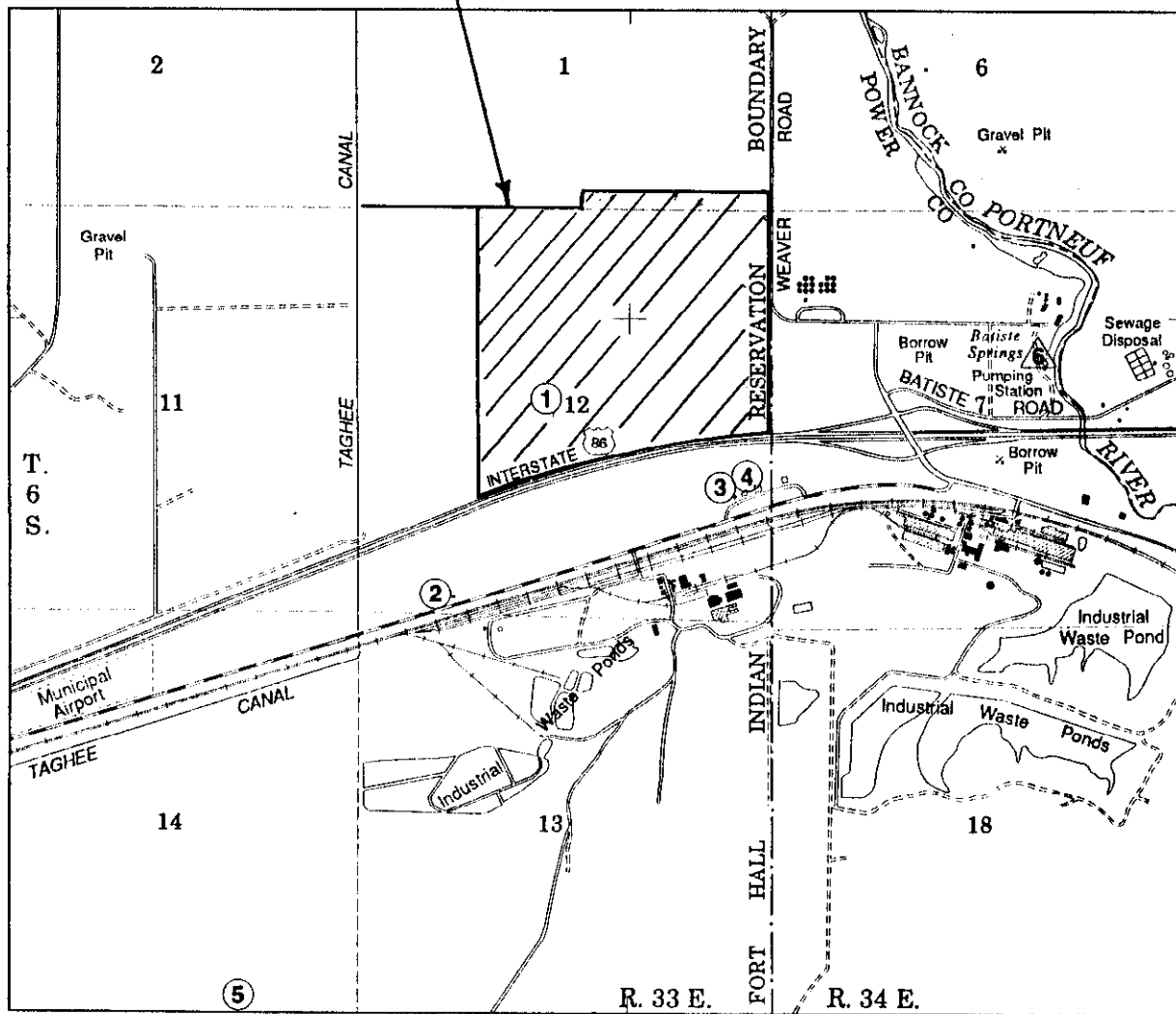
Jay B. Ulrich
DEQ Superintendent

cc: File (2)

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DEC 14 1989

CITY OF POCAHELLO - PERMIT # 29-0770



Base from U.S. Geological Survey
1:24,000, 1971

0 1 MILE
0 1 KILOMETER

EXPLANATION

- | | | |
|---|-----------------|---------------|
| ① | Michaud 1 | 6S-33E-12BDD1 |
| ② | Russell Lindley | 6S-33E-12CCD1 |
| ③ | Old Pilot House | 6S-33E-DAD1 |
| ④ | New Pilot House | 6S-33E-12DAD2 |
| ⑤ | Idaho Power | 6S-33E-14DCD1 |
| △ | Batiste Springs | 6S-34E-7ACA1S |

Figure 3.--Locations of wells and springs.

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DEC 14 1989

**WATER-QUALITY DATA FOR SELECTED SITES
ON MICHAUD FLATS, FORT HALL INDIAN
RESERVATION, IDAHO, DECEMBER 1982
TO JULY 1987**

U.S. GEOLOGICAL SURVEY
Open-File Report 89-71

Prepared in cooperation with
SHOSHONE-BANNOCK TRIBES
FORT HALL INDIAN RESERVATION



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DEC 14 1989

WATER-QUALITY DATA FOR SELECTED SITES ON MICHAUD FLATS,
FORT HALL INDIAN RESERVATION, IDAHO, DECEMBER 1982 TO
JULY 1987

By N.D. Jacobson

U.S. GEOLOGICAL SURVEY
Open-File Report 89-71

Prepared in cooperation with
SHOSHONE-BANNOCK TRIBES,
FORT HALL INDIAN RESERVATION

Boise, Idaho
1989

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DEC 14 1989



DEPARTMENT OF THE INTERIOR
MANUEL LUJAN, JR., Secretary
U.S. GEOLOGICAL SURVEY
Dallas L. Peck, Director

For additional information
write to:

District Chief
U.S. Geological Survey, WRD
230 Collins Road
Boise, ID 83702

Copies of this report can be
purchased from:

U.S. Geological Survey
Books and Open-File Reports
Federal Center, Bldg. 810
Box 25425
Denver, CO 80225

DEC 14 1989

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OCT 14 1989

CONVERSION FACTORS

For the convenience of readers who may prefer to use metric (International System) units rather than the inch-pound units used in this report, values may be converted by using factors listed in the table below. Constituent concentrations are given in mg/L (milligrams per liter) or µg/L (micrograms per liter), which are equal to parts per million or parts per billion, respectively. Specific conductance is reported in µS/cm (microsiemens per centimeter at 25 degrees Celsius).

<u>Multiply inch-pound unit</u>	<u>By</u>	<u>To obtain SI unit</u>
acre	4,047	square meter
foot (ft)	0.3048	meter
mile (mi)	1.609	kilometer
square mile (mi ²)	2.590	square kilometer

Temperature in °C (degrees Celsius) can be converted to °F (degrees Fahrenheit) as follows:

$$^{\circ}\text{F} = (1.8)^{\circ}\text{C} + 32$$

Water temperatures are reported to the nearest 0.5 °C.

UNCLASSIFIED

WATER-QUALITY DATA FOR SELECTED SITES ON MICHAUD FLATS,
FORT HALL INDIAN RESERVATION, IDAHO,
DECEMBER 1982 TO JULY 1987

By

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ABSTRACT

Chemical and physical data were collected from five wells and one spring on Michaud Flats in the Fort Hall Indian Reservation, southeastern Idaho, from December 1982 to July 1987. The data were collected to monitor changes in ground-water quality and to detect any migration of contaminants.

INTRODUCTION

The Michaud Flats study area occupies about 20 mi² in eastern Power and northwestern Bannock Counties, Idaho (fig. 1). The area lies south of American Falls Reservoir and the Snake River, between the Portneuf River on the east and Bannock Creek on the west. Ground-water resources on the flats are substantial and are developed extensively for irrigation and industrial pumpage.

Large concentrations of some contaminants, principally arsenic, in water from wells on the flats first were detected in October 1972 (Balmer and Noble, 1979, p. 215). The Idaho Department of Health and Welfare conducted a study of selected chemical constituents in water from various domestic and industrial wells from October 1972 to October 1973. During the study, arsenic concentrations in water from several wells exceeded the U.S. Public Health Service recommended limit of 50 µg/L (Balmer and Noble, 1979, p. 215).

In 1980, the U.S. Geological Survey, in cooperation with the Shoshone-Bannock Tribes, began a two-phase study to (1) determine the occurrence and movement of ground water and describe the degree and extent of ground-water contamination, and (2) develop a monitoring program to periodically sample and analyze water from selected wells and springs to help determine the degree and fluctuation of ground-water contamination associated with industrial wastewater disposal practices.

The first phase of study described geohydrologic and water-quality conditions in the vicinity of a large industrial complex that processes phosphate ores in the eastern Michaud Flats area on and near the Fort Hall Indian Reservation (Jacobson, 1982).

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The second phase of study provided geophysical data, storage coefficients, specific capacities, and transmissivity values for the area; described procedures being implemented by the ore-processing plants to control ground-water contamination; and presented concentrations of selected chemical constituents, dissolved solids, stable isotopes, and tritium (Jacobson, 1984).

Purpose and Scope

The purpose of this report is to present water-quality data collected from selected wells and springs at strategic locations on Michaud Flats. Data were collected during the period December 1982 to July 1987.

Acknowledgments

The author is grateful to the Shoshone-Bannock Tribes for their cooperation in conducting this study. Thanks also are due to Mr. C.D. Holmes, FMC Corporation; Mr. Paul Evans, J.R. Simplot Company; Mr. Clint Buchanan, City of Pocatello; and Idaho Power Company.

Well- and Spring-Numbering System

The numbering system used by the U.S. Geological Survey in Idaho indicates the location of wells or springs within the official rectangular subdivision of the public lands, with reference to the Boise base line and Meridian. The first two segments of the number designate the township and range. The third segment gives the section number; three letters, which indicate the $\frac{1}{4}$ section (160-acre tract), the $\frac{1}{4}$ - $\frac{1}{4}$ section (40-acre tract), and the $\frac{1}{4}$ - $\frac{1}{4}$ - $\frac{1}{4}$ section (10-acre tract); and the serial number of the well within the tract. Quarter sections are lettered A, B, C, and D in counterclockwise order from the northeast quarter of each section (fig. 2). Within quarter sections, 40-acre and 10-acre tracts are lettered in the same manner. Well 6S-33E-12DAD1 is in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$, sec. 12, T. 6 S., R. 33 E., and was the first well inventoried in that tract. Springs are designated by the letter "S" following the last numeral; for example, 6S-34E-7ACA1S.

DATA COLLECTION

Water samples for chemical analyses were obtained from five wells and one spring (fig. 3). These sites were selected to provide necessary data to determine any changes in concentrations of constituents and to detect any migration of contaminants. The sites were sampled semiannually in December and July from 1982 to 1985 and annually in July from 1986 to 1987.

Site 1 is a shallow observation well drilled by the U.S. Geological Survey. It is completed in the water-table aquifer and was located to intercept contaminant

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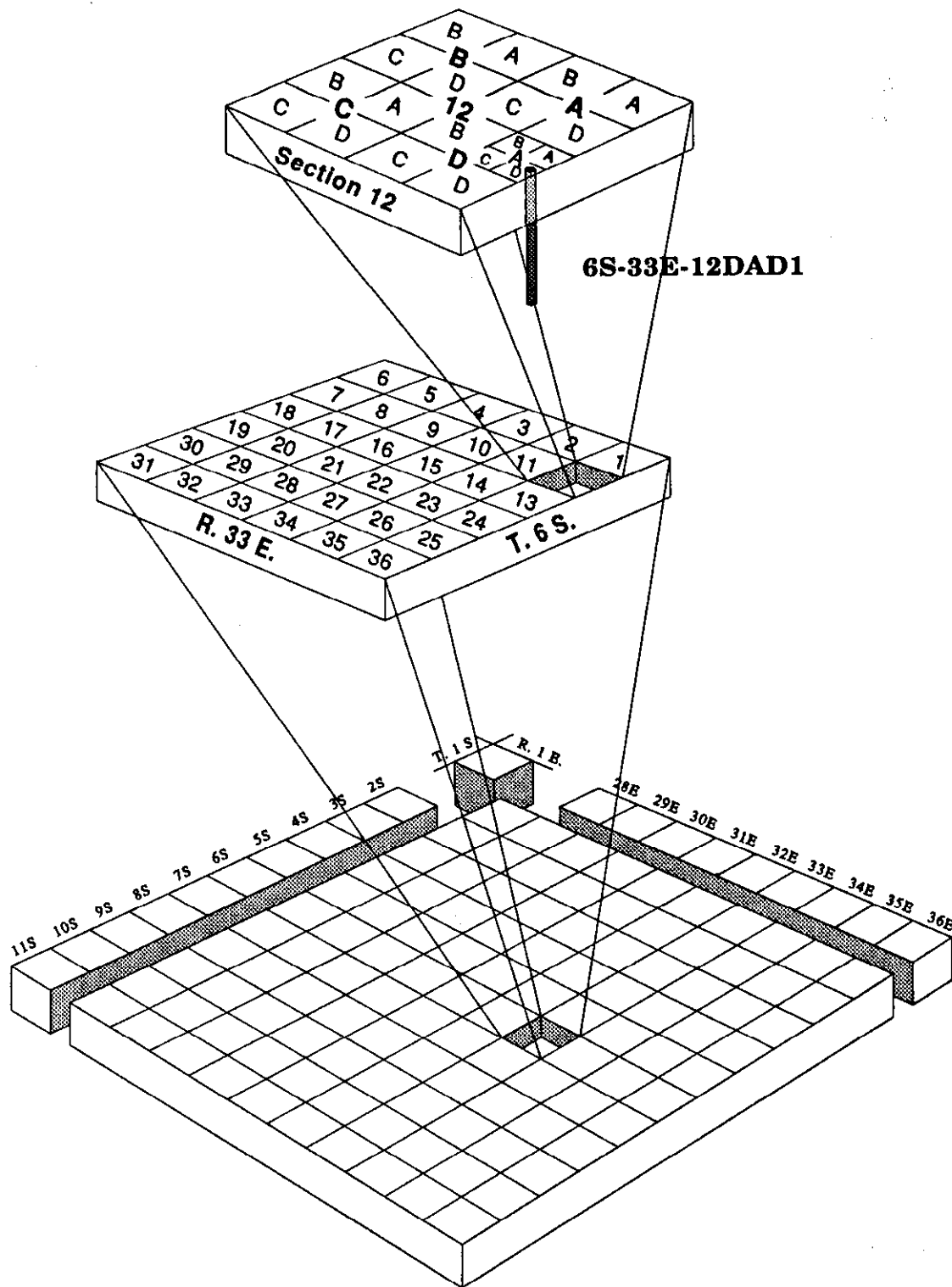
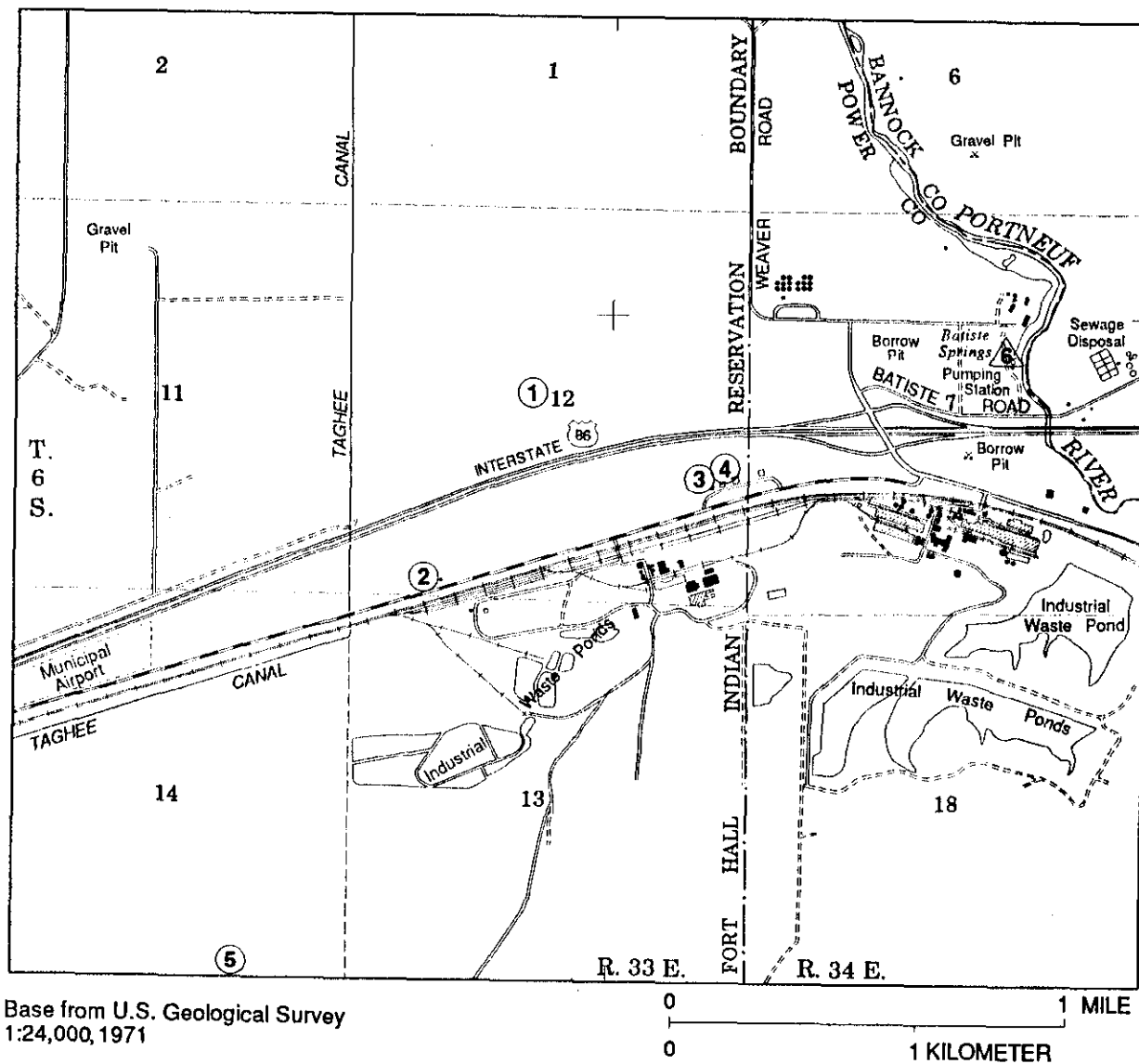


Figure 2.--Well- and spring-numbering system.



EXPLANATION

①	Michaud 1	6S-33E-12BDD1
②	Russell Lindley	6S-33E-12CCD1
③	Old Pilot House	6S-33E-DAD1
④	New Pilot House	6S-33E-12DAD2
⑤	Idaho Power	6S-33E-14DCD1
△ 6	Batiste Springs	6S-34E-7ACA1S

Figure 3.--Locations of wells and springs.

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migration. Site 2, a well completed in the water-table aquifer, has a history of poor water quality and is of use in determining water-quality trends. Site 3, a well also completed in the water-table aquifer, was the site first identified from chemical analysis where the concentration of arsenic in the water exceeded the U.S. Public Health Service water-quality limits. Site 4, a well completed in the deep artesian aquifer and immediately adjacent to site 3, was chosen to compare hydraulic heads between the two wells to indicate potential for leakage between aquifers, and to provide a representative water sample of the artesian aquifer. Site 5, a well completed in the artesian aquifer, is the farthest upgradient and is the only well available to determine background water quality. Batiste Springs was selected because of its proximity to the Portneuf River and industrial waste ponds. It has a long history of impaired water quality.

Water samples were analyzed for concentrations of hardness, dissolved calcium, magnesium, sodium, potassium, sulfate, chloride, fluoride, silica, solids, and nitrogen, total phosphorous, dissolved arsenic and boron, and dissolved and suspended gross alpha and gross beta. Determinations of specific conductance, pH, and air and water temperatures were made onsite.

RESULTS

Specific conductance ranged from 450 $\mu\text{S}/\text{cm}$ in background well 14DCD1 to 2,270 $\mu\text{S}/\text{cm}$ in well 12CCD1. Arsenic concentrations at all sites ranged from 3 to 94 $\mu\text{g}/\text{L}$ and exceeded the recommended limit (U.S. Environmental Protection Agency, 1977, p. 5) of 50 $\mu\text{g}/\text{L}$ in one sample from Batiste Springs and in five samples from the Old Pilot House well. Concentrations of boron ranged from 60 to 910 $\mu\text{g}/\text{L}$. Dissolved gross alpha concentrations ranged from 1.1 to 49 $\mu\text{g}/\text{L}$.

Chemical and physical data are presented in table 1. Statistical summaries of selected water-quality data for each site are presented in table 2.

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Headnotes for tables 1 and 2

Time:	24-hour
U-nat:	Uranium (natural)
susp.:	Suspended
pCi/L:	Picocuries per liter (curies x 10^{-12}). One curie is 3.7×10^{10} disintegrations per second.
Cs-137:	Cesium-137
Sr/Y-90:	Strontium/Yttrium-90
<:	Less than
--:	No data available
*:	Onsite analysis

Table 1.--Chemical analyses of water from wells and springs

6S-33E-12BDD1 Michaud Well 1

Date	Time	Depth below land surface (water level) (feet)	Depth of well, total (feet)	Spe- cific con- duc- tance (μ S/cm)	pH (standard units)	Temper- ature, air (°C)	Temper- ature, water (°C)	Hard- ness (mg/L as CaCO ₃)	Calcium, dis- solved (mg/L as Ca)	Magne- sium, dis- solved (mg/L as Mg)
12-20-82	0934	-	79.20	538	7.7	-2.5	13.5	180	50	14
7-18-83	0926	53.10	79.20	559	7.8	22.0	14.0	190	51	15
12-19-83	1152	52.30	79.20	524	7.5	-4.0	13.5	190	53	14
7-23-84	0930	52.50	79.20	545	7.6	25.0	13.5	200	52	16
12-17-84	0944	51.90	79.20	527	7.7	-10.0	13.5	200	54	15
7-10-85	0944	53.90	79.20	571	7.6	24.5	13.5	200	55	16
12-12-85	1311	52.50	79.20	556	8.1	-6.0	11.5	200	55	16
7-9-86	0922	53.55	79.20	578	7.7	20.0	13.5	190	53	15
7-21-87	0934	53.30	79.20	579	7.8	13.5	13.0	200	55	16

Date	Sodium, dis- solved (mg/L as Na)	Percent sodium	Sodium ad- sorp- tion ratio	Potas- sium, dis- solved (mg/L as K)	Sulfate, dis- solved (mg/L as SO ₄)	Chlo- ride, dis- solved (mg/L as Cl)	Fluo- ride, dis- solved (mg/L as F)	Silica, dis- solved (mg/L as SiO ₂)	Solids, sum of consti- tuents, dis- solved (mg/L)	Nitro- gen, NO ₂ +NO ₃ dis- solved (mg/L as N)
12-20-82	35	28	1	6.9	53	43	1.2	35	330	0.56
7-18-83	35	28	1	6.7	52	40	1.1	35	340	.67
12-19-83	34	27	1	6.4	53	40	1.1	35	330	.66
7-23-84	36	28	1	6.4	57	40	1.1	36	340	.63
12-17-84	34	27	1	6.6	54	42	1.0	36	340	.71
7-10-85	35	26	1	6.9	56	40	1.0	35	340	.72
12-12-85	34	26	1	7.4	57	47	1.0	35	350	.77
7-9-86	32	26	1	6.7	58	44	1.1	34	340	.83
7-21-87	33	25	1	5.8	58	44	1.0	34	350	.79

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Table 1.--Chemical analyses of water from wells and springs--Continued

6S-33E-12BDD1 Michaud Well 1--Continued

Date	Phos- phorus, total (mg/L as P)	Arsenic, dis- solved (µg/L as As)	Boron, dis- solved (µg/L as B)	Gross alpha, dis- solved (µg/L as U-nat)	Gross alpha, susp. total (µg/L as U-nat)	Gross beta, dis- solved (pCi/L as Cs-137)	Gross beta, susp. total (pCi/L as Cs-137)	Gross beta, dis- solved (pCi/L as Sr/ Y-90)	Gross beta, susp. total (pCi/L as Sr/ Y-90)
12-20-82	0.05	5	90	8.2	0.5	7.8	0.6	7.5	0.6
7-18-83	.22	5	90	7.9	<4	7.4	<4	7.1	<4
12-19-83	.01	4	90	7.0	<4	5.5	.6	4.7	.5
7-23-84	.02	3	90	7.7	<4	11	.5	9.1	<4
12-17-84	.03	4	90	7.5	<4	6.1	<4	5.3	<4
7-10-85	.02	4	90	7.7	<4	6.6	<4	5.7	<4
12-12-85	-	6	110	3.6	.6	8.4	.6	6.2	.6
7-9-86	.05	5	90	3.3	.8	7.3	.5	5.9	.5
7-21-87	<.01	4	90	1.5	<4	8.5	<4	6.4	<4

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Table 1.--Chemical analyses of water from wells and springs--Continued

6S-33E-12CCD1 Russell Lindley Well

Date	Time	Depth of (well, total (feet)	Spe- cific con- duc- tance (μ S/cm)	pH (standard units)	Temper- ature, air (°C)	Temper- ature, water (°C)	Hard- ness (mg/L as CaCO ₃)	Calcium, dis- solved (mg/L as Ca)	Magne- sium, dis- solved (mg/L as Mg)	Sodium dis- solved (mg/L as Na)
12-21-82	0934	103.00	1,650	7.4	6.0	13.0	560	140	51	140
7-19-83	0734	103.00	1,780	7.5	18.0	14.0	610	150	57	160
12-21-83	1313	103.00	2,080	7.6	-22.0	11.0	650	160	62	160
7-24-84	1014	103.00	2,230	7.3	42.0	11.0	610	150	57	170
12-18-84	0817	103.00	1,910	7.2	-6.0	10.0	600	150	54	150
7-10-85	1536	103.00	1,570	7.7	28.0	13.0	530	130	50	130
12-13-85	0818	103.00	1,870	7.4	-10.0	9.5	580	140	55	140
7- 9-86	1532	103.00	2,270	7.3	18.5	13.0	710	170	70	170
7-22-87	0914	103.00	1,920	7.5	23.0	14.0	620	150	59	140

Date	Percent sodium	Sodium ad- sorp- tion ratio	Potas- sium, dis- solved (mg/L as K)	Sulfate, dis- solved (mg/L as SO ₄)	Chlo- ride, dis- solved (mg/L as Cl)	Fluo- ride, dis- solved (mg/L as F)	Silica, dis- solved (mg/L as SiO ₂)	Solids, sum of consti- tuents, dis- solved (mg/L)	Nitro- gen, NO ₂ +NO ₃ dis- solved (mg/L as N)
12-21-82	34	3	15	170	310	0.5	46	1,000	6.3
7-19-83	36	3	15	200	360	.5	45	1,200	6.5
12-21-83	34	3	15	210	360	.5	42	1,200	6.5
7-24-84	37	3	18	210	350	.6	47	1,200	6.6
12-18-84	35	3	15	180	310	.4	47	1,100	5.8
7-10-85	34	3	14	180	290	.5	45	990	5.1
12-13-85	34	3	15	180	320	.5	47	1,100	6.2
7- 9-86	33	3	18	220	410	.5	47	1,300	7.0
7-22-87	32	3	15	180	340	.5	44	1,100	5.2

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Table 1.--Chemical analyses of water from wells and springs--Continued

6S-33E-12CCD1 Russell Lindley Well--Continued

Date	Phos- phorus, total (mg/L as P)	Arsenic, dis- solved (µg/L as As)	Boron, dis- solved (µg/L as B)	Gross alpha, dis- solved (µg/L as U-nat)	Gross alpha, susp. total (µg/L as U-nat)	Gross beta, dis- solved (pCi/L as Cs-137)	Gross beta, susp. total (pCi/L as Cs-137)	Gross beta, dis- solved (pCi/L as Sr/ Y-90)	Gross beta, susp. total (pCi/L as Sr/ Y-90)
12-21-82	0.05	6	210	31	<0.4	18	0.7	17	0.7
7-19-83	.21	8	260	37	<4	19	.6	18	.6
12-21-83	.03	7	260	38	<4	21	1.3	18	1.2
7-24-84	.04	7	290	33	<4	24	<4	21	<4
12-18-84	.02	6	250	31	<4	22	.8	19	.8
7-10-85	.06	6	240	26	<4	15	.6	13	.6
12-13-85	.03	7	240	7.8	<4	18	.6	13	.6
7- 9-86	.04	9	310	16	.7	28	.6	19	.6
7-22-87	.03	6	270	12	<4	27	<4	17	<4

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Table 1.--Chemical analyses of water from wells and springs--Continued

6S-33E-12DAD1 Old Pilot House Well

Date	Time	Depth below land surface (water level) (feet)	Depth of well, total (feet)	Spe- cific con- duc- tance (μ S/cm)	pH (standard units)	Temper- ature, air (°C)	Temper- ature, water (°C)	Hard- ness (mg/L as CaCO ₃)	Calcium, dis- solved (mg/L as Ca)	Magne- sium, dis- solved (mg/L as Mg)
12-20-82	1117	-	113.00	1,340	7.2	0.0	18.5	360	76	42
7-18-83	1144	-	113.00	1,830	7.3	30.0	19.0	390	82	44
12-19-83	1346	66.00	113.00	1,790	7.3	.0	18.0	410	88	45
7-23-84	1113	66.50	113.00	1,780	7.3	27.0	17.5	420	87	49
12-17-84	1115	65.40	113.00	1,940	7.2	-8.0	16.0	430	93	49
7-10-85	1311	67.20	113.00	1,830	7.3	25.5	17.0	400	83	46
12-12-85	1200	66.45	113.00	1,970	7.5	-6.0	15.0	420	87	49
7- 9-86	1124	67.01	113.00	1,890	7.3	20.0	16.5	410	86	47
7-21-87	1121	66.85	113.00	1,960	7.4	13.5	15.5	430	89	50

Date	Sodium, dis- solved (mg/L as Na)	Percent sodium	Sodium ad- sorp- tion ratio	Potas- sium, dis- solved (mg/L as K)	Sulfate, dis- solved (mg/L as SO ₄)	Chlo- ride, dis- solved (mg/L as Cl)	Fluo- ride, dis- solved (mg/L as F)	Silica, dis- solved (mg/L as SiO ₂)	Solids, sum of consti- tuents, dis- solved (mg/L)	Nitro- gen, NO ₂ +NO ₃ dis- solved (mg/L as N)
12-20-82	130	34	3	150	150	220	<0.1	66	1,100	6.0
7-18-83	130	34	3	130	160	200	<1	63	1,000	7.6
12-19-84	140	35	3	120	160	210	<1	63	1,100	6.5
7-23-84	150	35	3	140	160	250	.1	62	1,100	6.9
12-17-84	150	35	3	130	170	260	<1	64	1,100	15.0
7-10-85	130	32	3	170	170	230	<1	61	1,100	9.5
12-12-85	150	36	3	120	190	260	<1	59	1,200	2.1
7- 9-86	150	36	3	140	180	260	<1	57	1,100	11.0
7-21-87	150	36	3	120	190	250	.2	58	1,100	13.0

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Table 1.--*Chemical analyses of water from wells and springs*--Continued

6S-33E-12DAD1 Old Pilot House Well--Continued

Date	Phos- phorus, total (mg/L as P)	Arsenic, dis- solved (µg/L as As)	Boron, dis- solved (µg/L as B)	Gross alpha, dis- solved (µg/L as U-nat)	Gross alpha, susp. total (µg/L as U-nat)	Gross beta, dis- solved (pCi/L as Cs-137)	Gross beta, susp. total (pCi/L as Cs-137)	Gross beta, dis- solved (pCi/L as Sr/ Y-90)	Gross beta, susp. total (pCi/L as Sr/ Y-90)
12-20-82	13.0	51	870	27	<0.4	150	<0.4	140	<0.4
7-18-83	12.0	47	850	28	<4	130	<4	120	<4
12-19-83	13.0	52	830	49	<4	120	.5	120	.5
7-23-84	16.0	51	810	28	<4	120	<4	120	<4
12-17-84	—	44	850	38	<4	130	<4	110	<4
7-10-85	10.0	26	770	23	.5	130	<4	110	<4
12-12-85	10.0	60	840	6.5	.6	160	.6	100	.6
7- 9-86	8.8	52	910	8.7	.7	190	.6	130	.6
7-21-87	7.5	45	870	3.9	<4	150	.6	100	.6

Table 1.--Chemical analyses of water from wells and springs--Continued

6S-33E-12DAD2 New Pilot House Well

Date	Time	Depth below land surface (water level) (feet)	Depth of well, total (feet)	Spe- cific con- duc- tance (μ S/cm)	pH (standard units)	Temper- ature, air (°C)	Temper- ature, water (°C)	Hard- ness (mg/L as CaCO ₃)	Calcium, dis- solved (mg/L as Ca)	Magne- sium, dis- solved (mg/L as Mg)
12-20-82	1232	-	212.00	489	7.8	0.0	13.5	180	48	14
7-18-83	1309	-	212.00	510	8.1	31.5	15.0	180	47	14
12-19-83	1448	64.90	212.00	452	7.8	-6.0	11.5	180	49	14
7-23-84	1306	65.10	212.00	485	7.9	27.0	15.0	190	50	16
12-17-84	1325	64.60	212.00	499	7.7	-8.5	12.5	190	50	15
7-10-85	1138	66.80	212.00	511	7.9	26.0	15.0	190	50	15
12-12-85	1108	67.12	212.00	515	8.0	-7.0	11.5	180	46	15
7- 9-86	1220	65.95	212.00	522	7.9	25.0	15.0	180	48	15
7-21-87	1308	65.96	212.00	511	7.9	13.5	14.5	190	50	16

Date	Sodium, dis- solved (mg/L as Na)	Percent sodium	Sodium ad- sorp- tion ratio	Potas- sium, dis- solved (mg/L as K)	Sulfate, dis- solved (mg/L as SO ₄)	Chlo- ride, dis- solved (mg/L as Cl)	Fluo- ride, dis- solved (mg/L as F)	Silica, dis- solved (mg/L as SiO ₂)	Solids, sum of consti- tuents, dis- solved (mg/L)	Nitro- gen, NO ₂ +NO ₃ dis- solved (mg/L as N)
12-20-82	29	25	1	5.6	43	24	0.8	32	280	2.80
7-18-83	29	26	1	6.0	52	29	.9	31	300	.83
12-19-83	29	25	1	5.2	50	30	.9	31	300	.83
7-23-84	31	25	1	5.3	52	29	.9	32	310	.76
12-17-84	30	25	1	5.7	51	29	.8	33	290	.85
7-10-85	30	25	1	5.6	48	28	.8	32	300	.87
12-10-85	30	26	1	5.4	54	32	.8	30	310	.95
7- 9-86	28	24	.9	5.4	54	31	.9	31	310	.97
7-21-87	28	24	.9	4.7	54	30	.8	31	310	.99

Table 1.--*Chemical analyses of water from wells and springs--Continued*

6S-33E-12DAD2 New Pilot House Well--Continued

Date	Phos- phorus, total (mg/L as P)	Arsenic, dis- solved (µg/L as As)	Boron, dis- solved (µg/L as B)	Gross alpha, dis- solved (µg/L as U-nat)	Gross alpha, susp. total (µg/L as U-nat)	Gross beta, dis- solved (pCi/L as Cs-137)	Gross beta, susp. total (pCi/L as Cs-137)	Gross beta, dis- solved (pCi/L as Sr/ Y-90)	Gross beta, susp. total (pCi/L as Sr/ Y-90)
12-20-82	0.03	3	70	8.3	<0.4	5.6	0.4	5.4	0.5
7-18-83	.62	4	90	7.8	1.4	5.5	.8	5.3	.8
12-19-83	.01	3	80	8.6	<4	4.6	<4	3.9	<4
7-23-84	.08	3	80	8.2	<4	5.9	<4	5.1	<4
12-17-84	.01	3	80	6.4	<4	6.3	<4	5.5	<4
7-10-85	.02	3	80	5.9	<4	4.0	.5	3.5	.5
12-12-85	.04	3	80	2.9	.5	7.5	.6	5.8	.6
7- 9-86	.03	3	90	1.8	.5	4.9	.6	4.1	.6
7-21-87	<.01	3	80	3.3	<4	5.9	<4	4.5	<4

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Table 1.--Chemical analyses of water from wells and springs--Continued

6S-33E-14DCD1 Idaho Power Well

Date	Time	Depth below land surface (water level) (feet)	Depth of well, total (feet)	Spe- cific con- duc- tance (μ S/cm)	pH (standard units)	Temper- ature, air (°C)	Temper- ature, water (°C)	Hard- ness (mg/L as CaCO ₃)	Calcium, dis- solved (mg/L as Ca)	Magne- sium, dis- solved (mg/L as Mg)
12-20-82	1519	161.82	234.00	485	7.8	6.0	12.5	180	45	16
7-18-83	1531	162.00	234.00	471	8.1	32.0	17.5	180	44	16
12-19-83	1152	161.00	234.00	450	7.8	.0	14.0	170	45	15
7-23-84	1448	161.60	234.00	483	7.8	30.0	16.5	190	48	17
12-17-84	1416	160.10	234.00	475	7.8	-11.0	13.0	180	47	16
7-10-85	1403	161.60	234.00	507	7.9	32.5	16.0	180	46	17
12-12-85	1454	160.74	234.00	482	7.9	-8.0	14.0	180	46	17
7- 9-86	1418	161.60	234.00	498	7.8	22.0	16.5	180	45	16
7-21-87	1418	162.28	234.00	501	7.9	14.5	15.5	180	45	17

Date	Sodium, dis- solved (mg/L as Na)	Percent sodium	Sodium ad- sorp- tion ratio	Potas- sium, dis- solved (mg/L as K)	Sulfate, dis- solved (mg/L as SO ₄)	Chlo- ride, dis- solved (mg/L as Cl)	Fluo- ride, dis- solved (mg/L as F)	Silica, dis- solved (mg/L as SiO ₂)	Solids, sum of consti- tuents, dis- solved (mg/L)	Nitro- gen, NO ₂ +NO ₃ dis- solved (mg/L as N)
12-20-82	25	22	0.8	8.3	18	34	0.5	60	300	0.94
7-18-83	25	23	.8	7.9	20	39	.4	58	310	1.00
12-19-83	25	23	.9	7.8	20	35	.5	58	310	1.00
7-23-84	26	22	.8	8.4	18	35	.5	60	310	.90
12-17-84	26	23	.9	8.0	18	37	.4	62	310	1.10
7-10-85	27	23	.9	11	20	36	.4	62	320	1.10
12-12-85	26	22	.9	8.5	16	42	.4	61	320	1.20
7- 9-86	26	23	.9	8.5	22	38	.4	58	310	1.30
7-21-87	26	23	.9	8.3	21	40	.4	58	320	1.20

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Table 1.--Chemical analyses of water from wells and springs--Continued

6S-33E-14DCD1 Idaho Power Well--Continued

Date	Phos- phorus, total (mg/L as P)	Arsenic, dis- solved (µg/L as As)	Boron, dis- solved (µg/L as B)	Gross alpha, dis- solved (µg/L as U-nat)	Gross alpha, susp. total (µg/L as U-nat)	Gross beta, dis- solved (pCi/L as Cs-137)	Gross beta, susp. total (pCi/L as Cs-137)	Gross beta, dis- solved (pCi/L as Sr/ Y-90)	Gross beta, susp. total (pCi/L as Sr/ Y-90)
12-20-82	0.04	15	60	6.4	<0.4	9.8	<0.4	9.4	<0.4
7-18-83	.13	17	60	9.6	.5	9.0	.5	8.6	.5
12-19-83	.01	14	60	12	<4	11	<4	9.2	<4
7-23-84	.02	15	60	6.3	<4	6.1	.5	5.2	.5
12-17-84	.07	14	60	7.2	<4	9.0	<4	7.8	<4
7-10-85	.30	18	70	8.2	<4	12	<4	10	<4
12-12-85	.02	18	70	3.3	.5	12	.6	8.8	.6
7- 9-86	.03	18	60	8.4	.8	9.5	.6	7.9	.6
7-21-87	.03	15	60	9.1	<4	14	<4	10	<4

Table 1.--Chemical analyses of water from wells and springs--Continued

6S-34E-7ACA1S Batiste Springs

Date	Time	Specific con- duc- tance (μ S/cm)	pH (standard units)	Temper- ature, air (°C)	Temper- ature, water (°C)	Hard- ness (mg/L as CaCO ₃)	Calcium, dis- solved (mg/L as Ca)	Magne- sium, dis- solved (mg/L as Mg)	Sodium, dis- solved (mg/L as Na)
12-21-82	0616	1,290	6.8	5.5	14.0	470	120	42	80
7-19-83	0952	1,510	6.9	21.0	13.5	520	130	48	89
12-20-83	1010	1,290	6.9	-12.0	14.0	510	130	44	83
7-24-84	0824	1,350	6.8	24.5	14.5	530	130	49	95
12-18-84	0926	1,360	6.9	-8.5	14.0	480	120	44	86
7-11-85	0839	1,140	6.9	20.0	14.0	410	100	39	76
12-13-85	1000	1,160	6.8	.0	13.5	410	100	38	74
7-10-86	0819	1,320	6.8	17.0	14.0	440	110	40	80
7-22-86	1042	958	7.0	19.5	13.5	340	85	31	62

Date	Percent sodium	Sodium ad- sorp- tion ratio	Potas- sium, dis- solved (mg/L as K)	Sulfate, dis- solved (mg/L as SO ₄)	Chlo- ride, dis- solved (mg/L as Cl)	Fluo- ride, dis- solved (mg/L as F)	Silica, dis- solved (mg/L as SiO ₂)	Solids, sum of consti- tuents, dis- solved (mg/L)	Nitro- gen, NO ₂ +NO ₃ dis- solved (mg/L as N)
12-21-82	26	2	16	240	75	0.4	42	770	8.9
7-19-83	26	2	14	280	71	.4	41	840	9.8
12-20-83	26	2	13	240	72	.5	41	820	8.5
7-24-84	28	2	13	280	72	.4	43	880	10.0
12-18-84	27	2	13	230	79	.4	43	780	16.0
7-11-85	28	2	15	190	72	.4	42	680	6.0
12-13-85	28	2	13	200	75	.4	39	710	7.3
7-10-86	27	2	16	230	78	.4	41	770	10.0
7-22-86	27	2	13	140	65	.5	37	580	4.8

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Table 1.--*Chemical analyses of water from wells and springs*--Continued

6S-34E-7ACA1S Batiste Springs--Continued

Date	Phos- phorus, total (mg/L as P)	Arsenic, dis- solved (µg/L as As)	Boron, dis- solved (µg/L as B)	Gross alpha, dis- solved (µg/L as U-nat)	Gross alpha, susp. total (µg/L as U-nat)	Gross beta, dis- solved (pCi/L as Cs-137)	Gross beta, susp. total (pCi/L as Cs-137)	Gross beta, dis- solved (pCi/L as Sr/ Y-90)	Gross beta, susp. total (pCi/L as Sr/ Y-90)
12-21-82	4.20	25	250	20	<0.4	16	<0.4	15	<4
7-19-83	4.30	20	250	24	<4	14	<4	13	<4
12-20-83	3.40	19	250	21	<4	17	<4	15	<4
7-24-84	9.80	36	260	24	<4	110	<4	96	<4
12-18-84	2.50	24	260	19	<4	19	<4	17	<4
7-11-85	.02	36	270	15	<4	15	<4	13	<4
12-13-85	3.80	31	260	7.5	.8	17	.5	11	.5
7-10-86	.16	36	290	16	.6	21	.4	16	.4
7-22-87	2.70	94	240	1.1	<4	17	<4	12	<4

Table 2.--Statistical summary of selected water-quality data

6S-33E-12BDD1 Michaud Well 1

Water-quality constituent	Data population	Median (50 percent)	Mean	Range of values	
				Minimum	Maximum
*Specific conductance ($\mu\text{S}/\text{cm}$)	9	556	553	524	579
*pH (standard units)	9	7.7	7.7	7.5	8.1
*Temperature ($^{\circ}\text{C}$)	9	13.5	13.0	11.5	14.0
Hardness (mg/L as CaCO_3)	9	195	194	180	200
Calcium, dissolved (mg/L as Ca)	9	53	53	50	55
Magnesium, dissolved (mg/L as Mg)	9	15	15	14	16
Sodium, dissolved (mg/L as Na)	9	34	34	32	36
Potassium, dissolved (mg/L as K)	9	6.7	6.6	5.8	7.4
Chloride, dissolved (mg/L as Cl)	9	42	42	40	47
Fluoride, dissolved (mg/L as F)	9	1.1	1.1	1.0	1.2
Silica, dissolved (mg/L as SiO_2)	9	35	35	34	36
Nitrogen, nitrite + nitrate, dissolved (mg/L as N)	9	.71	.70	.56	.83
Phosphorus, total (mg/L as P)	8	.02	.05	.01	.22
Arsenic, dissolved ($\mu\text{g}/\text{L}$ as As)	9	4	4.5	3	6
Boron, dissolved ($\mu\text{g}/\text{L}$ as B)	9	92	92	90	110
Gross alpha, dissolved ($\mu\text{g}/\text{L}$ as U-nat)	9	7.6	6.6	3.3	8.2
Gross alpha, susp. total ($\mu\text{g}/\text{L}$ as U-nat)	9	.40	.49	<.40	.80
Gross beta, dissolved (pCi/L as Cs-137)	9	7.4	7.5	5.5	11.0
Gross beta, susp. total (pCi/L as Cs-137)	9	.50	.50	<.40	.60
Gross beta, dissolved (pCi/L as Sr/Y-90)	9	6.0	6.4	4.7	9.1
Gross beta, susp. total (pCi/L as Sr/Y-90)	9	.45	.48	<.40	.60

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Table 2.--Statistical summary of selected water-quality data--Continued

6S-33E-12CCD1 Russell Lindley Well

Water-quality constituent	Data population	Median (50 percent)	Mean	Range of values	
				Minimum	Maximum
*Specific conductance ($\mu\text{S}/\text{cm}$)	9	1,910	1,920	1,570	2,270
*pH (standard units)	9	7.4	7.4	7.2	7.7
*Temperature ($^{\circ}\text{C}$)	9	13.0	12.0	9.5	14.0
Hardness (mg/L as CaCO_3)	9	610	607	530	710
Calcium, dissolved (mg/L as Ca)	9	150	149	130	170
Magnesium, dissolved (mg/L as Mg)	9	57	57	50	70
Sodium, dissolved (mg/L as Na)	9	150	151	130	170
Potassium, dissolved (mg/L as K)	9	15	16	14	18
Chloride, dissolved (mg/L as Cl)	9	340	339	290	410
Fluoride, dissolved (mg/L as F)	9	.50	.50	.40	.60
Silica, dissolved (mg/L as SiO_2)	9	46	46	42	47
Nitrogen, nitrite + nitrate, dissolved (mg/L as N)	9	6.3	6.1	5.1	7.0
Phosphorus, total (mg/L as P)	9	.04	.05	.02	.21
Arsenic, dissolved ($\mu\text{g}/\text{L}$ as As)	9	7.0	6.9	6.0	9.0
Boron, dissolved ($\mu\text{g}/\text{L}$ as B)	9	260	259	210	310
Gross alpha, dissolved ($\mu\text{g}/\text{L}$ as U-nat)	9	31	27	7.8	38
Gross alpha, susp. total ($\mu\text{g}/\text{L}$ as U-nat)	9	.40	.44	<.40	.70
Gross beta, dissolved (pCi/L as Cs-137)	9	20	20	15	28
Gross beta, susp. total (pCi/L as Cs-137)	9	.60	.70	<.40	1.30
Gross beta, dissolved (pCi/L as Sr/Y-90)	9	18	17	13	21
Gross beta, susp. total (pCi/L as Sr/Y-90)	9	.60	.69	<.40	1.20

Table 2.--Statistical summary of selected water-quality data--Continued

6S-33E-12DAD1 Old Pilot House Well

Water-quality constituent	Data population	Median (50 percent)	Mean	Range of values	
				Minimum	Maximum
*Specific conductance ($\mu\text{S}/\text{cm}$)	9	1,830	1,810	1,340	1,970
*pH (standard units)	9	7.3	7.3	7.2	7.5
*Temperature ($^{\circ}\text{C}$)	9	17.0	17.0	15.0	19.0
Hardness (mg/L as CaCO_3)	9	410	410	360	430
Calcium, dissolved (mg/L as Ca)	9	86	86	76	93
Magnesium, dissolved (mg/L as Mg)	9	46	47	42	50
Sodium, dissolved (mg/L as Na)	9	145	142	130	150
Potassium, dissolved (mg/L as K)	9	130	135	120	170
Chloride, dissolved (mg/L as Cl)	9	240	240	200	260
Fluoride, dissolved (mg/L as F)	9	.12	.12	<.10	.20
Silica, dissolved (mg/L as SiO_2)	9	62	61	57	66
Nitrogen, nitrite + nitrate, dissolved (mg/L as N)	9	7.2	7.9	2.1	15
Phosphorus, total (mg/L as P)	8	10	11.2	7.5	16
Arsenic, dissolved ($\mu\text{g}/\text{L}$ as As)	9	49	48	26	60
Boron, dissolved ($\mu\text{g}/\text{L}$ as B)	9	845	844	810	910
Gross alpha, dissolved ($\mu\text{g}/\text{L}$ as U-nat)	9	27	24	3.90	49
Gross alpha, susp. total ($\mu\text{g}/\text{L}$ as U-nat)	9	.42	.47	<.40	.70
Gross beta, dissolved (pCi/L as Cs-137)	9	130	140	120	190
Gross beta, susp. total (pCi/L as Cs-137)	9	.42	.46	<.40	.60
Gross beta, dissolved (pCi/L as Sr/Y-90)	9	115	120	110	140
Gross beta, susp. total (pCi/L as Sr/Y-90)	9	.42	.47	<.40	.60

Table 2.--Statistical summary of selected water-quality data--Continued

6S-33E-12DAD2 New Pilot House Well

Water-quality constituent	Data population	Median (50) percent)	Mean	Range of values	
				Minimum	Maximum
*Specific conductance ($\mu\text{S}/\text{cm}$)	9	511	499	452	522
*pH (standard units)	9	7.9	7.9	7.7	8.1
*Temperature ($^{\circ}\text{C}$)	9	14.5	13.5	11.5	15.0
Hardness (mg/L as CaCO_3)	9	185	185	180	190
Calcium, dissolved (mg/L as Ca)	9	49	49	46	50
Magnesium, dissolved (mg/L as Mg)	9	15	15	14	16
Sodium, dissolved (mg/L as Na)	9	29	29	28	30
Potassium, dissolved (mg/L as K)	9	5.4	5.4	4.7	6.0
Chloride, dissolved (mg/L as Cl)	9	30	29	28	32
Fluoride, dissolved (mg/L as F)	9	.80	.80	.80	.90
Silica, dissolved (mg/L as SiO_2)	9	31	31	30	33
Nitrogen, nitrite + nitrate, dissolved (mg/L as N)	9	.87	1.09	.76	2.80
Phosphorus, total (mg/L as P)	9	.03	.09	.01	.62
Arsenic, dissolved ($\mu\text{g}/\text{L}$ as As)	9	3	3	3	4
Boron, dissolved ($\mu\text{g}/\text{L}$ as B)	9	80	80	70	90
Gross alpha, dissolved ($\mu\text{g}/\text{L}$ as U-nat)	9	6.4	5.9	1.8	8.6
Gross alpha, susp. total ($\mu\text{g}/\text{L}$ as U-nat)	9	.42	.57	<.40	1.40
Gross beta, dissolved (pCi/L as Cs-137)	9	5.5	5.5	4.0	7.5
Gross beta, susp. total (pCi/L as Cs-137)	9	.50	.53	<.40	.80
Gross beta, dissolved (pCi/L as Sr/Y-90)	9	5.1	4.7	3.5	5.8
Gross beta, susp. total (pCi/L as Sr/Y-90)	9	.50	.53	<.40	.80

Table 2.--Statistical summary of selected water-quality data--Continued

6S-33E-14DCD1 Idaho Power Well

Water-quality constituent	Data population	Median (50 percent)	Mean	Range of values	
				Minimum	Maximum
*Specific conductance ($\mu\text{S}/\text{cm}$)	9	483	484	450	507
*pH (standard units)	9	7.8	7.9	7.8	8.1
*Temperature ($^{\circ}\text{C}$)	9	15.5	15.0	12.5	17.5
Hardness (mg/L as CaCO_3)	9	180	180	170	190
Calcium, dissolved (mg/L as Ca)	9	45	45	44	48
Magnesium, dissolved (mg/L as Mg)	9	16	16	15	17
Sodium, dissolved (mg/L as Na)	9	26	26	25	27
Potassium, dissolved (mg/L as K)	9	8.3	8.5	7.8	11
Chloride, dissolved (mg/L as Cl)	9	37	37	34	42
Fluoride, dissolved (mg/L as F)	9	.42	.43	.40	.50
Silica, dissolved (mg/L as SiO_2)	9	60	60	58	62
Nitrogen, nitrite + nitrate, dissolved (mg/L as N)	9	1.10	1.08	.90	1.30
Phosphorus, total (mg/L as P)	9	.03	.07	.01	.30
Arsenic, dissolved ($\mu\text{g}/\text{L}$ as As)	9	15	16	14	18
Boron, dissolved ($\mu\text{g}/\text{L}$ as B)	9	62	62	60	70
Gross alpha, dissolved ($\mu\text{g}/\text{L}$ as U-nat)	9	7.7	7.7	3.3	12
Gross alpha, susp. total ($\mu\text{g}/\text{L}$ as U-nat)	9	.40	.48	<.40	.80
Gross beta, dissolved (pCi/L as Cs-137)	9	9.6	9.8	6.1	12
Gross beta, susp. total (pCi/L as Cs-137)	9	.45	.48	<.40	.60
Gross beta, dissolved (pCi/L as Sr/Y-90)	9	8.7	8.4	5.2	10
Gross beta, susp. total (pCi/L as Sr/Y-90)	9	.45	.48	<.40	.60

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Table 2.--Statistical summary of selected water-quality data--Continued

6S-34E-7ACA1S Batiste Springs

Water-quality constituent	Data population	Median (50 percent)	Mean	Range of values	
				Minimum	Maximum
*Specific conductance ($\mu\text{S}/\text{cm}$)	9	1,160	1,150	958	1,320
*pH (standard units)	9	6.8	6.9	6.8	7.0
*Temperature ($^{\circ}\text{C}$)	9	13.5	13.5	13.5	14.0
Hardness (mg/L as CaCO_3)	9	470	456	340	530
Calcium, dissolved (mg/L as Ca)	9	120	114	85	130
Magnesium, dissolved (mg/L as Mg)	9	42	42	31	49
Sodium, dissolved (mg/L as Na)	9	80	81	62	95
Potassium, dissolved (mg/L as K)	9	13	14	13	16
Chloride, dissolved (mg/L as Cl)	9	75	73	65	79
Fluoride, dissolved (mg/L as F)	9	.40	.43	.40	.50
Silica, dissolved (mg/L as SiO_2)	9	41	41	37	43
Nitrogen, nitrite + nitrate, dissolved (mg/L as N)	9	8.9	9.0	4.8	16
Phosphorus, total (mg/L as P)	9	3.40	3.43	.02	9.80
Arsenic, dissolved (mg/L as As)	9	31	36	19	94
Boron, dissolved (mg/L as B)	9	260	263	240	290
Gross alpha, dissolved ($\mu\text{g}/\text{L}$ as U-nat)	9	19.0	16.4	1.1	24
Gross alpha, susp. total ($\mu\text{g}/\text{L}$ as U-nat)	9	.42	.47	<.40	.80
Gross beta, dissolved (pCi/L as Cs-137)	9	17	27	14	110
Gross beta, susp. total (pCi/L as Cs-137)	9	.40	.40	<.40	.50
Gross beta, dissolved (pCi/L as Sr/Y-90)	9	15	23	11	96
Gross beta, susp. total (pCi/L as Sr/Y-90)	9	.40	.40	<.40	.50

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Jacobson, N.D., 1982, Ground-water conditions in the eastern part of Michaud Flats, Fort Hall Indian Reservation, Idaho: U.S. Geological Survey Water-Resources Investigations/Open-File Report 82-570, 35 p.

----- 1984, Hydrogeology of eastern Michaud Flats, Fort Hall Indian Reservation, Idaho: U.S. Geological Survey Water-Resources Investigations Report 84-4201, 31 p.

U.S. Environmental Protection Agency, 1977, National interim primary water regulations: Washington, U.S. Government Printing Office, 159 p.

A detailed topographic map of the Upper Snake Hydrologic Basin. The map features a grid of elevation contours and a network of rivers and streams. Key place names include Blaine, Idaho, and Jefferson. The map is oriented with North at the top. The title 'UPPER SNAKE HYDROLOGIC BASIN' is printed at the top left. The map shows the basin's extent across several counties, including Blaine, Idaho, and Jefferson. The terrain is rugged, with numerous peaks and valleys. The river network is extensive, with many tributaries feeding into the main channels. The map is a black and white line drawing, typical of technical maps.

May 10, 1984

Ident. No. 29-7770STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT

To appropriate the public waters of the State of Idaho

1. Name of applicant City of Pocatello Phone (208) 232-4311 ext. 175Post office address P. O. Box 4169 Pocatello, ID 832052. Source of water supply ground water which is a tributary of _____3. Location of point of diversion is S.E. $\frac{1}{4}$ of N.E. $\frac{1}{4}$ of Section 12 Township 6 S.Range 33 E. B.M. _____ Power _____ County, additional points of diversion if any: _____

4. Water will be used for the following purposes:

5/16/84 Amount 5.72 for irrigation purposes from April 1 to Oct. 15 (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)Amount _____ for _____ purposes from _____ to _____ (both dates inclusive)
(cfs or acre-feet per annum)

5. Total quantity to be appropriated:

5/16/84 a. 5.72
6.7 cubic feet per second and/or b. _____ acre-feet per annum.

6. Proposed diverting works:

a. Description of ditches, flumes, pumps, headgates, etc. 20" diameter deep well with
appropriate vertical turbine pump and motor to pump 6.7 cfs.
various sizes of irrigation mainline to accommodate flow.b. Height of storage dam N/A feet, active reservoir capacity N/A acre-feet; total reservoir
capacity N/A acre-feet, materials used in storage dam: N/APeriod of year when water will be diverted to storage N/A to N/A inclusive.
(Month/Day) (Month/Day)c. Proposed well diameter is 20 inches; proposed depth of well is 300 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: _____

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b. If water is for irrigation, indicate acreage in each subdivision in the table 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	
6S.	33 E.	12	40	40	40	25	40			40	25				3	15			268
6S.	33 E.	1															9	9	18

Total number of acres to be irrigated 286

c. Describe any other water rights used for the same purposes as described above. None

9. a. Who owns the property at the point of diversion City of Pocatello

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

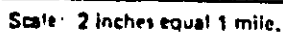
c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing N/A

10. Remarks This permit is being requested so that a well can be drilled on City owned property to supply irrigation water for a 280 acre farming operation at the City's proposed sludge management site. Treated sludge from the City's wastewater treatment facility will be stored during the winter months, then dried during the summer months and applied to the farm land as fertilizer and soil conditioner. Water from the well will be necessary to irrigate the various yearly crops. All surface water runoff will be retained on the site.

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See Attached USGS Map




(Applicant)
Director of Public Works

13-Sep-1989

City of Pocatello
P.O. Box 4169
Pocatello, ID 83205

RE: Application for Permit No. 29-7770

Dear Water Right Applicant:

The Department of Water Resources acknowledges receipt of your water right permit. This office is currently in the process of advertising the application in the Power County Press. The advertisement will be published for two consecutive weeks, and a period of ten days following the second publication will be allowed for the submittal of protests.

If the application is protested, you will be sent a copy of the protest. The protest must be resolved before the application is approved or denied. If the protest is not resolved voluntarily, this Department will conduct a conference and/or hearing on the matter.

If the application is not protested, it will be forwarded to our state office in about five weeks. State office personnel will conduct a complete review prior to final processing of the application and will notify you of the outcome of this review. When a permit is issued, you will be sent a copy. A typical processing time for an unprotested application is about eight weeks.

Please feel free to contact this office if you have any questions regarding this procedure.

Sincerely,

HAROLD W. JONES
Water Rights Supervisor

HWJ/rb

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DEC 14 1989

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
Eastern Region
150 Shoup Ave., Suite 15

Idaho Falls, Idaho 83402
(208) 525-7161

SEPTEMBER 13, 1989

THE POWER COUNTY PRESS
P.O. BOX 547
AMERICAN FALLS, ID 83211

Gentlemen:

Enclosed you will find a legal notice 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 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 OCTOBER 9, 1989.

Yours truly,

Rita Bodell
Secretary

Encl.

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DEC 14 1989

NOTICE OF APPLICATION FOR WATER RIGHT

The Following application(s) have been filed appropriate the public waters of the State of Idaho:

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DEC 14 1989

29-07770

CITY OF POCA TELLO
P.O. BOX 4169
POCA TELLO, ID 83205

Source: GROUNDWATER

Diversion Pt: SENE Sec 12 T 06S R 33E

Use: IRRIGATION (5.720 CFS)

Date Filed: 5/21/1984

In: T06S R33E S01	SWSE	SESE		
S12	NENE	NWNE	SWNE	SENE
	NENW	SENW	NESW	NESE
	NWSE			

286.0 ACRES TOTAL

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DEC 14 1989

The permit(s) will be subject to all prior water rights. Protests may be submitted based on the criteria of Sec. 42-3A, Idaho Code and/or the new public interest criteria of Sec. 42-203C, Idaho Code. Protests must be filed with the Director, Dept. of Water Resources, 150 Shoup Ave., Suite 15, Idaho Falls, Idaho 83402 on or before OCTOBER 9, 1989.

R. Keith Higginson, Director

Published 9/20/1989 & 9/27/1989

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DEC 14 1989

INTER-DEPARTMENT MEMO — 1

FROM Ron

DATE 9/17/87

TO ERNIE

SUBJECT POCA TELLO

FIND OUT IF THE LAND SHOWN IN THIS APPLICATION HAS EVER BEEN IRRIGATED BEFORE. IF SO WHAT IS THE HISTORY.

WE'LL TALK ABOUT IT WHEN I GET BACK

Ron, This ground has not been irrigated in the past.

AWJ 9-21-87



SIGNATURE

ACTION REQUIRED

8 Sept. '87

FROM: E. Carlson.

TO: R. Carlson.

Subject: Application 29-7770.

J. Ulrich requested the Dept. examine the possibility of exchanging a portion of Pocatello's Palisades storage for groundwater diverted under this filing. This is a rather unique request because neither the p.d. nor p.o.e. are within the trust water area. So normally the applicant would not be required to mitigate losses to the aquifer by leasing storage. Unfortunately, the application is not

ACTION REQUIRED

FROM: _____

TO: _____

eligible for interim approval since no beneficial use
has taken place.

What position is the Dept. going to take concerning
Mr. Ulrich's proposal?

July 28, 1987

J. B. Ulrich
City of Pocatello
902 E. Sherman
P.O. Box 4169
Pocatello, ID 83205-4169

Re: Application for Permit No. ~~25-7770~~

Dear Mr. Ulrich:

The department has reviewed your letter in connection with the above referenced application. The original letter which you apparently sent on March 27, 1987 has not been located.

The above referenced application proposes irrigation use for 286 acres. This use can not be considered as domestic, commercial, municipal or industrial (DCMI) as requested in your letter. As you probably are aware, the "Contract to Implement" signed October 25, 1984 by the state and Idaho Power Company (IPCO) allows the department to issue permits for DCMI uses.

Since your proposed use is not included in the DCMI category of uses, the department is not able to approve the application.

When the agreement between the state and IPCO is full operative, the department will be able to begin processing of the backlog of pending applications. Approval of the agreement by the Federal Energy Regulatory Commission is the last matter to be completed in order for the the Swan Falls agreement to become effective and for the department to consider approval of consumptive use applications such as for irrigation use.

Please feel free to contact this office if you have questions.

Sincerely,

L. GLEN SAXTON
Chief, Operations Bureau

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c: E. Region

DEC 14 1989

City of Pocatello

POCATELLO, IDAHO 83205-4169

MUNICIPAL BUILDING
P.O. BOX 4169

902 E. SHERMAN
208-232-4311

March 27, 1987

RECEIVED

JUL 01 1987

Mr. A. Kenneth Dunn
Director Department of Water Resources
150 Shoup
Suite 15
Idaho Falls, Idaho 83402

Department of Water Resources

Dear Mr. Dunn:

RE: INTERIM WATER PERMIT REQUEST

The City of Pocatello, Water Pollution Control Department requests your approval and issuance of an interim water permit. The interim permit is requested for the well site and water diversion as described in our Application for Permit #29-2770.

518
7770

In another matter, please be aware that the proposed use for waters described in the permit application is for irrigation of 286 acres of farmland. The farm is owned and will be operated by the City of Pocatello. The purpose of the farming operation is to provide a crop and soil system which will allow for utilization of stabilized domestic sewage sludge to be transported from our municipal wastewater treatment plant and be applied to the land as a crop nutrient source and soil conditioner.

Because of the intended use of the land and water we would request your assignment of our water application as a DCMI as defined in the State Water Plan.

Thank you for your time and consideration in this matter.

Sincerely,

Jay B. Ulrich

J. B. Ulrich
WPC Superintendent

JBU:mvf

Copy: Mayor Finlayson

(/wp/kendunn)

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DEC 14 1989

July 7, 1987

J. B. Ulrich, Superintendent
Water Pollution Control
P.O. Box 4169
Pocatello, ID 83205

RE: Application for Permit 29-7770

Dear Mr. Ulrich:

Department records indicate the enclosed document reflects changes made to application for permit 29-7770.

This application was originally filed in May of 1984. Later that month you reduced the amount from 6.7 cfs to 5.72 cfs. In March, 1986, further changes to the application eliminated reference to the proposed sledge storage and drawing facility.

These changes were initiated on separate documents. To consolidate them, we prepared the enclosed application for your review and signature by the Director of the Department of Works. Please return the signed application to this office.

Your letter dated March 11, 1986, asked when final action on the application would occur. Final administrative action on the City's application is being deferred pending the Federal Energy Regulatory Commission's concurring with the Swan Falls Agreement signed October 1, 1984, by the State of Idaho and Idaho Power Company. This Department is involved with getting FERC to act in this matter. But a resolution in the next few months is not likely.

If you have any questions concerning application for permit 29-7770, feel free to contact this office.

Respectfully submitted,

Ernest Carlsen
Water Resource Supervisor

EC/dg

Enclosure

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DEC 14 1989

City of Pocatello

POCATELLO, IDAHO 83205-4169

MUNICIPAL BUILDING
P.O. BOX 4169

RECEIVED

MAR 17 1986

902 E. SHERMAN
Department of Water Resources 832-4311
Eastern District Office

March 11, 1986

Mr. Ernie M. Carlsen
Department of Water Resources
150 Shoup, Suite 15
Idaho Falls, Idaho 83401

RE: MODIFIED REMARKS - "APPLICATION FOR PERMIT".

Mr. Carlsen:

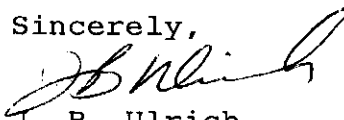
Please note the deletions and corrections indicated on the attached copy of our original application for underground water (Ident. No. - 29-7770). The changes are as follows:

Item 10. Remarks - Delete reference to the City's construction and operation of sludge storage and drying facilities upon the irrigation site. These facilities will not be constructed as planned and indicated upon the original application.

Map of Proposed Project: Please note the deletion of "Proposed Sludge Storage Drying Facilities" per above comments.

We have completed drilling and testing of the well which is a key element in the development of this project. I would appreciate any information that you could provide with regard to when we will receive the final permit.

Sincerely,



J. B. Ulrich
Water Pollution Control
Superintendent

JBU:mvf

Copy: Cac Turner - City
Whitey Lammers - Energy Management

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DEC 14 1989

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT

To appropriate the public waters of the State of Idaho

1. Name of applicant City of Pocatello Phone (208) 232-4311 ext. 175

Post office address P. O. Box 4169 Pocatello, ID 83205

2. Source of water supply ground water which is a tributary of _____

3. Location of point of diversion is S.E. $\frac{1}{4}$ of N.E. $\frac{1}{4}$ of Section 12 Township 6 S.

Range 33 E. B.M. Power County, additional points of diversion if any: _____

4. Water will be used for the following purposes:

Amount 6.7 for irrigation purposes from April 1 to Oct. 15 (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)

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

5. Total quantity to be appropriated:

a. 6.7 cubic feet per second and/or b. _____ acre-feet per annum.

6. Proposed diverting works:

a. Description of ditches, flumes, pumps, headgates, etc. 20" diameter deep well with
appropriate vertical turbine pump and motor to pump 6.7 cfs.
various sizes of irrigation mainline to accommodate flow.

b. Height of storage dam N/A feet, active reservoir capacity N/A acre-feet; total reservoir
capacity N/A acre-feet, materials used in storage dam: N/A

Period of year when water will be diverted to storage N/A to N/A inclusive.
(Month/Day) (Month/Day)

c. Proposed well diameter is 20 inches; proposed depth of well is 300 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 _____ to be
supplied with domestic water _____

(5) If water is to be used for other purposes describe: _____

RECORDED & INDEXED

DEC 14 1989

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

[illegible]

Total number of acres to be irrigated 286

c. Describe any other water rights used for the same purposes as described above. None

9. a. Who owns the property at the point of diversion City of Pocatello

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

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

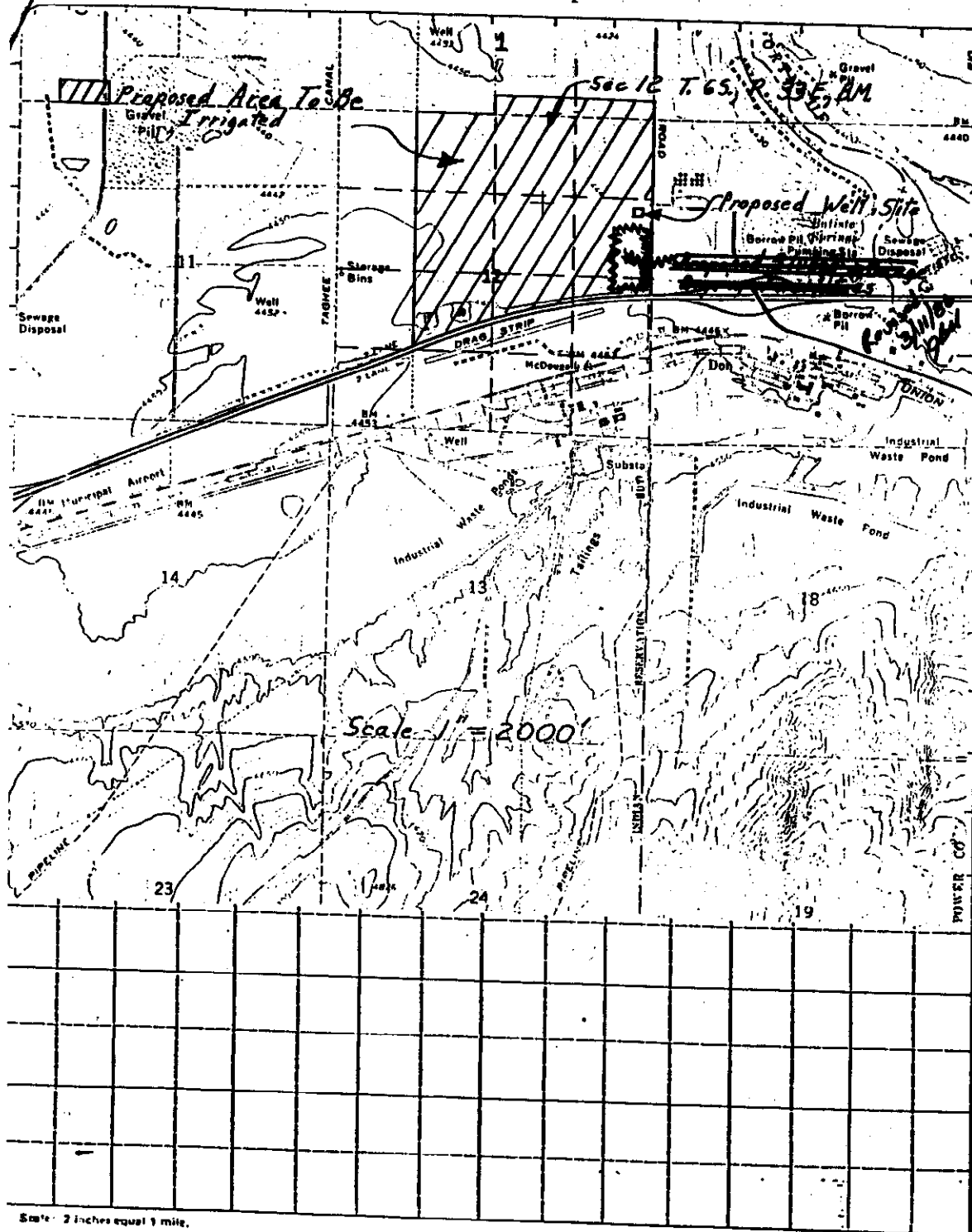
10. Remarks This permit is being requested so that a well can be drilled on
City owned property to supply irrigation water for a 280 acre farming
operation at the City's proposed sludge management site. Treated
sludge from the City's wastewater treatment facility will be stored (2)
~~during the winter months, then dried during the summer months and~~
applied to the farm land as fertilizer and soil conditioner. Water
from the well will be necessary to irrigate the various yearly crops.
All surface water runoff will be retained on the site.

Revised:
984
2/11/86

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~~DEC 14 1989~~

1. Map of proposed project showing clearly the proposed point of diversion, place of use, section number, township and range number.
See Attached USGS Map



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

DEC 14 1989
(Applicant)

Director of Public Works

Received _____ 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: _____

Witness my hand this _____ day of _____, 19____.

Director

MICROFILMED

DEC 14 1989

[illegible]

WFO-20

WATER RIGHTS BY PLACE OF USE
SHOWING OVERLAPPING RIGHTS AND DIVERSION RATE PER ACRE

01/19/04

PAGE 2332

TOWNSHIP	RANGE	SECTION	TRACT	LOT	ACRES	USE	INCHES PER ACRE	ACRE FEET PER ACRE	RIGHT NUMBER	STAGE	STATUS	PRIORITY DATE	SOURCE OF WATER			
045	33E	11	12		40	A	.0666	x	29-2259	L		06-20-1944	GROUNDWATER			
					40	A	.0666	x	29-7437	P		06-02-1978	WASTE WATER			
					40	A	.0666	x	29-7437	P		06-02-1978	WASTE WATER			
					40	A	.0666	x	29-7437	P		06-02-1978	WASTE WATER			
					40	A	.0666	x	29-7437	P		06-02-1978	WASTE WATER			
					40	A	.0666	x	29-7437	P		06-02-1978	WASTE WATER			
					40	A	.0666	x	29-7437	P		06-02-1978	WASTE WATER			
					38	A	.9002	3.50	29-7073	L		09-10-1971	GROUNDWATER			
					40	A	.0666	x	29-7437	P		06-02-1978	WASTE WATER			
					38	A	.9002	3.50	29-7073	L		09-10-1971	GROUNDWATER			
					30	A	.0666	x	29-7437	L		06-02-1978	WASTE WATER			
					20	A	1.0000	x	29-2255A	L		05-22-1959	GROUNDWATER			
		14			40	A	.0666	x	29-2255B	L		09-10-1971	GROUNDWATER			
					25	A	.0666	.35	29-7437	L		06-02-1978	WASTE WATER			
					36	A	1.0000	x	29-2255A	L		05-22-1959	GROUNDWATER			
					38	A	.2830	x	29-2255B	L		09-10-1971	GROUNDWATER			
					15	A	.0666	x	29-2259	L		06-20-1944	GROUNDWATER			
					40	A	.9571	x	29-2339	L		09-17-1953	GROUNDWATER			
					40	A	.9571	x	29-2339	L		09-17-1953	GROUNDWATER			
					30	A	.9571	x	29-2339	L		09-17-1953	GROUNDWATER			
					15	A	1.0000	x	29-2259	L		05-21-1959	GROUNDWATER			
					25	A	1.0000	x	29-2259	L		08-13-1943	GROUNDWATER			
					40	A	.9500	x	29-2275	L		08-13-1943	GROUNDWATER			
					40	A	.9500	x	29-2275	L		08-13-1943	GROUNDWATER			
					10	A	.9500	x	29-2275	L		08-13-1943	GROUNDWATER			
					30	A	.9571	x	29-2439	L		09-17-1953	GROUNDWATER			
					16	A	.9500	x	29-2275	L		08-13-1943	GROUNDWATER			
					16	A	.9500	x	29-2275	L		08-13-1943	GROUNDWATER			
					20	A	.9500	x	29-2275	L		08-13-1943	GROUNDWATER			
					30	A	.9500	x	29-2275	L		08-13-1943	GROUNDWATER			
					20	A	.9500	x	29-2275	L		08-13-1943	GROUNDWATER			
					30	A	1.0000	3.50	29-7119	L		04-11-1973	WATER			
		16			40	A	1.0000	x	29-7119	L		04-11-1973	WATER			
					40	A	.7186	3.49	29-7118	L		04-11-1973	WATER			
					40	A	.7186	3.49	29-7118	L		04-11-1973	WATER			
					40	A	.7186	3.49	29-7118	L		04-11-1973	WATER			
					40	A	.7186	3.49	29-7118	L		04-11-1973	WATER			
					40	A	.7186	3.49	29-7118	L		04-11-1973	WATER			
					40	A	.7186	3.49	29-7118	L		04-11-1973	WATER			
					40	A	.7186	3.49	29-7118	L		04-11-1973	WATER			
					40	A	.7186	3.49	29-7118	L		04-11-1973	WATER			
					40	A	.7186	3.49	29-7118	L		04-11-1973	WATER			
					40	A	.7186	3.49	29-7118	L		04-11-1973	WATER			
					40	A	.7186	3.49	29-7118	L		04-11-1973	WATER			
					40	A	.7186	3.49	29-7118	L		04-11-1973	WATER			
					40	A	.7186	3.49	29-7118	L		04-11-1973	WATER			
					40	A	.7186	3.49	29-7118	L		04-11-1973	WATER			
					40	A	.7186	3.49	29-7118	L		04-11-1973	WATER			
					40	A	.7186	3.49	29-7118	L		04-11-1973	WATER			
					40	A	.7186	3.49	29-7118	L		04-11-1973	WATER			
					17			40	A	1.0000	x	29-7575	P		01-14-1941	WATER
								03	A	1.0000	x	29-7238	P		10-31-1974	WATER
03	A	1.0000	x	29-7238				P		01-14-1941	WATER					
24	A	1.0000	x	29-7575				P		01-14-1941	WATER					
32	A	.7186	3.49	29-7118				L		04-11-1973	WATER					
40	A	.8312	x	29-4204				L		05-01-1956	WATER					
40	A	.7647	x	29-7613				P		08-19-1961	WATER					
40	A	.8312	x	29-4204				P		05-01-1956	WATER					
40	A	.7647	x	29-7613				P		08-19-1961	WATER					
01	A	1.5000	x	29-4205				S		07-01-1962	WATER					
16	A	1.0000	3.50	29-7050				L		03-24-1970	GROUNDWATER					
04	A	.7647	x	29-7613				P		08-19-1961	GROUNDWATER					
32	A	.7186	3.49	29-7118	L		04-11-1973	GROUNDWATER								

MICROFILMED

P12

DEC 14 1989

[illegible][illegible]

1884-85	
TOWNSHIP	RANGE
065	07N

29-7770

CITY OF POCA TELLO

P.O. BOX 4169, POCA TELLO, ID 83205

Source: GROUNDWATER

Date Filed: 05/21/1984

Diversion Pt: SENE Sec 12 T 06S R 33E

Use: IRRIGATION (5.72 CFS)

In: NENE NWNE SWNE SENE NENW SENW NESW NESE NWSE Sec 12 T 06S R 33E SWSE SESE
Sec 01 T 06S R 33E FOR 286 ACRES

MICROFILMED

1984 14 28

May 17, 1984

John Postlewait
c/o City of Pocatello
P.O. Box 4169
Pocatello, ID 83205

Dear Mr. Postlewait:

Enclosed is the application for permit and check #92-23 for \$165 that the City of Pocatello recently filed. The maximum amount allowed on line 4 of the application for irrigation of 286 acres is 5.72cfs (0.02cfs X 286). This amount would require a fee of only \$145.

If you agree please initial the change on line 4 and 5 and return the application with a fee of \$145 to this office.

Sincerely,

HAROLD W. JONES
Sr. Resource Agent

HWJ:jk

Enclosures

RECEIVED

DEC 14 1989