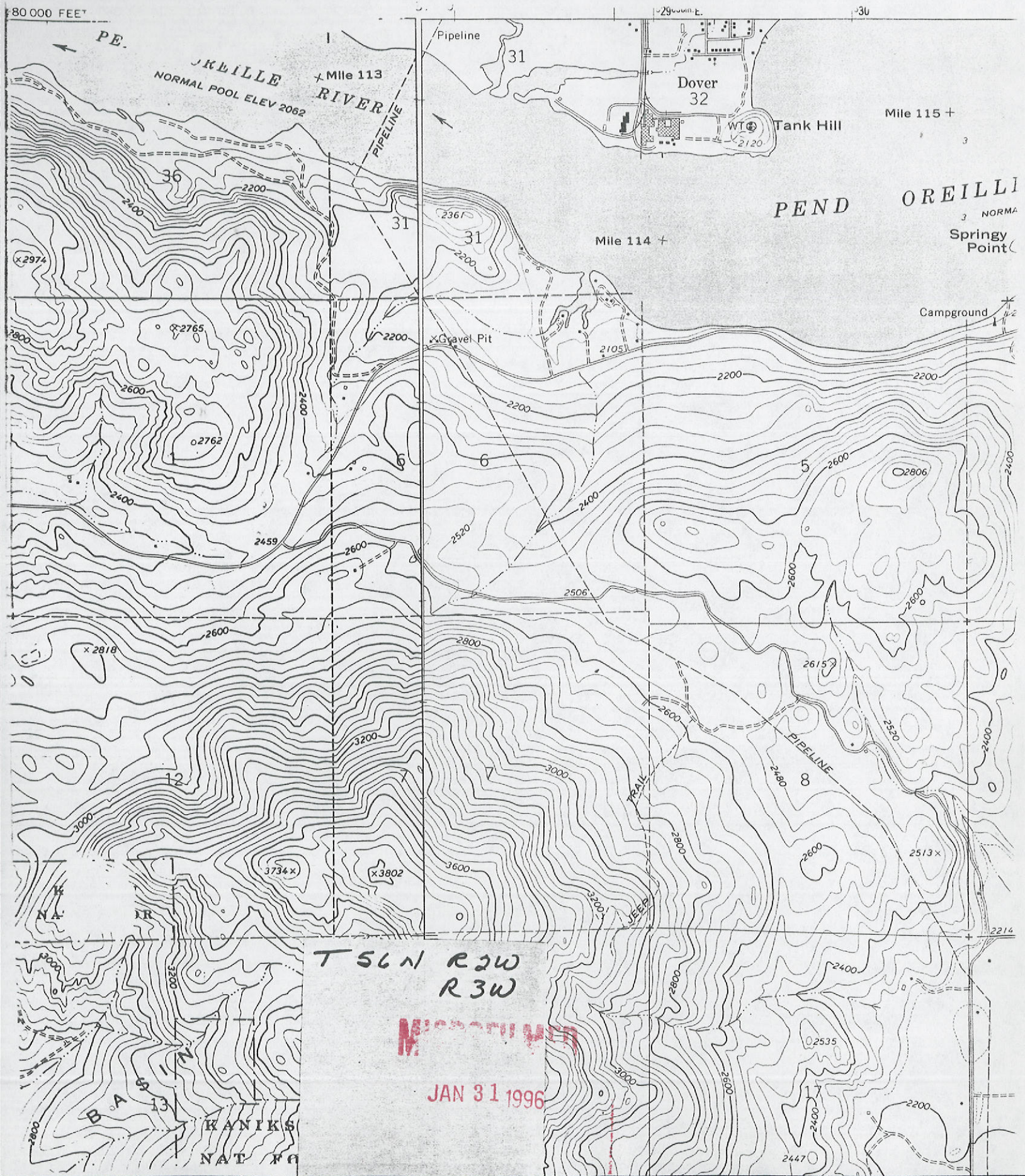


UNITED STATES
DEPARTMENT OF THE ARMY

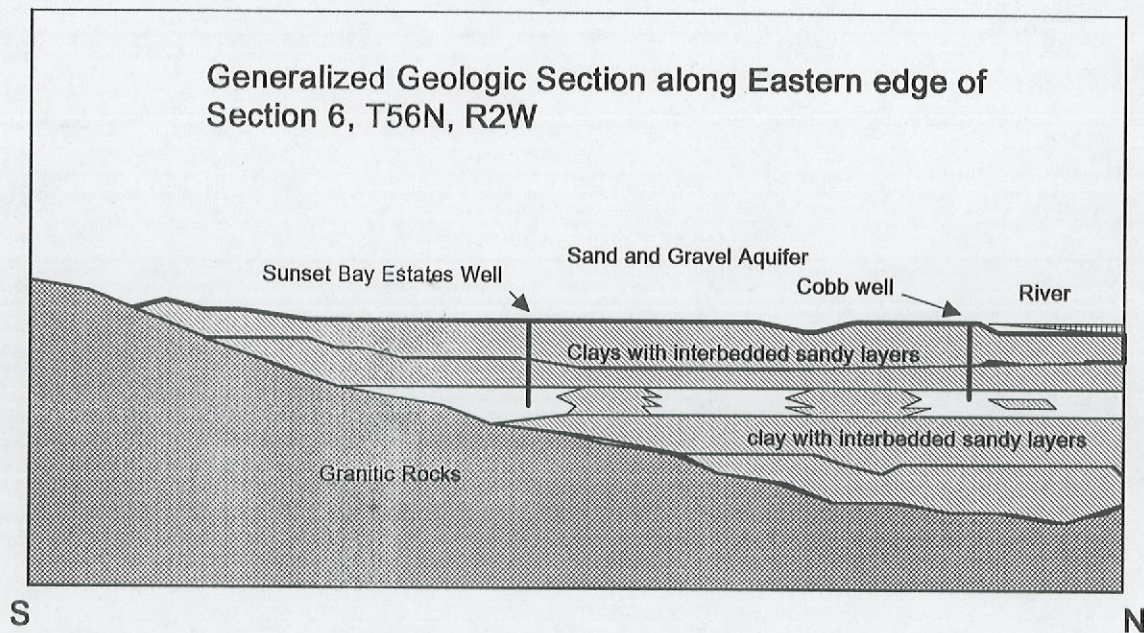


are discontinuous, and are separated by low hydraulic conductivity silts and clays. These kinds of deposits are typically associated with braided or meandering stream channels.

Thank you for the opportunity to assist you in this matter.

John I. Monks
Hydrogeologist

cc: Al Beardsley, IDWR



P.O. Box 1273, Sandpoint, ID 83864, 208-263-7632
phone & fax

MICROFILMED
JAN 31 1996

OCT. 24, 1994

MR. LOU VERMEER
MR. BILL BROWN
102 SOUTH FOURTH AVE
Sandpoint, ID 83864

Dear Mr. BROWN & MR. VERMEER:

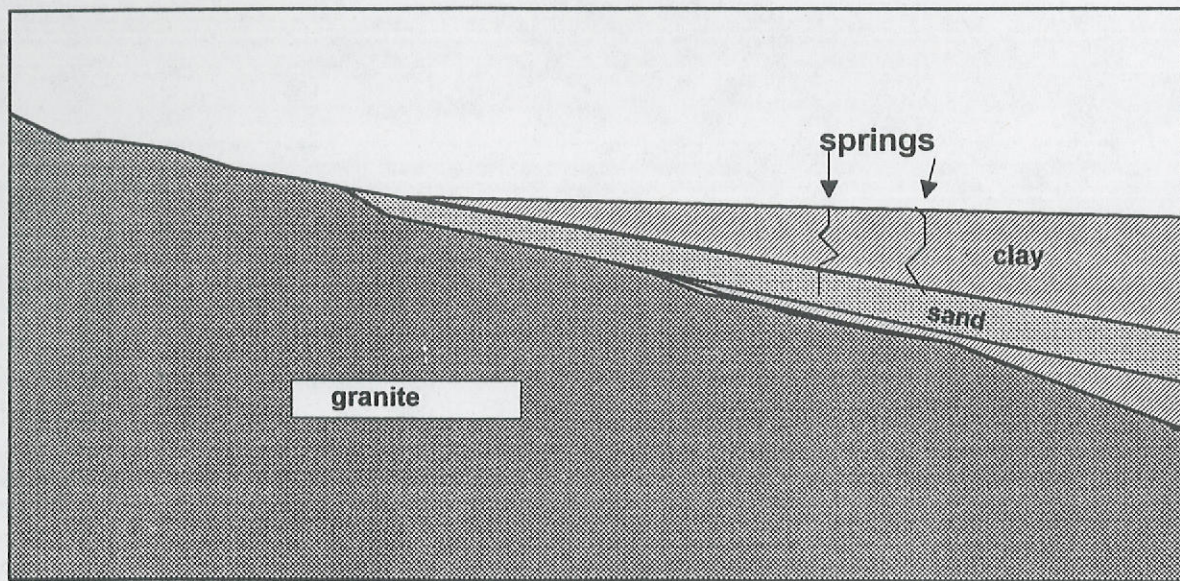
We have received a letter from Mr. Robert Haynes, Regional Manager (Northern Region) of the Dept. of Water Resources in Coeur d'Alene, suggesting that we contact you to determine if there is a way to resolve the protest that my wife and I registered on Oct. 12, 1994, re the well and water rights application to serve the Sunset Bay Subdivision.

We are willing to consider a reasonable proposal that would provide the protection that we need to assure that your well and requested water rights will not impact upon our rights to our domestic water supply. If you have such a proposal or any suggestions concerning the problem and how we might resolve it, please let us know. We are supposed to notify Mr. Haynes by about Nov. 6 should we be able to reach resolution.

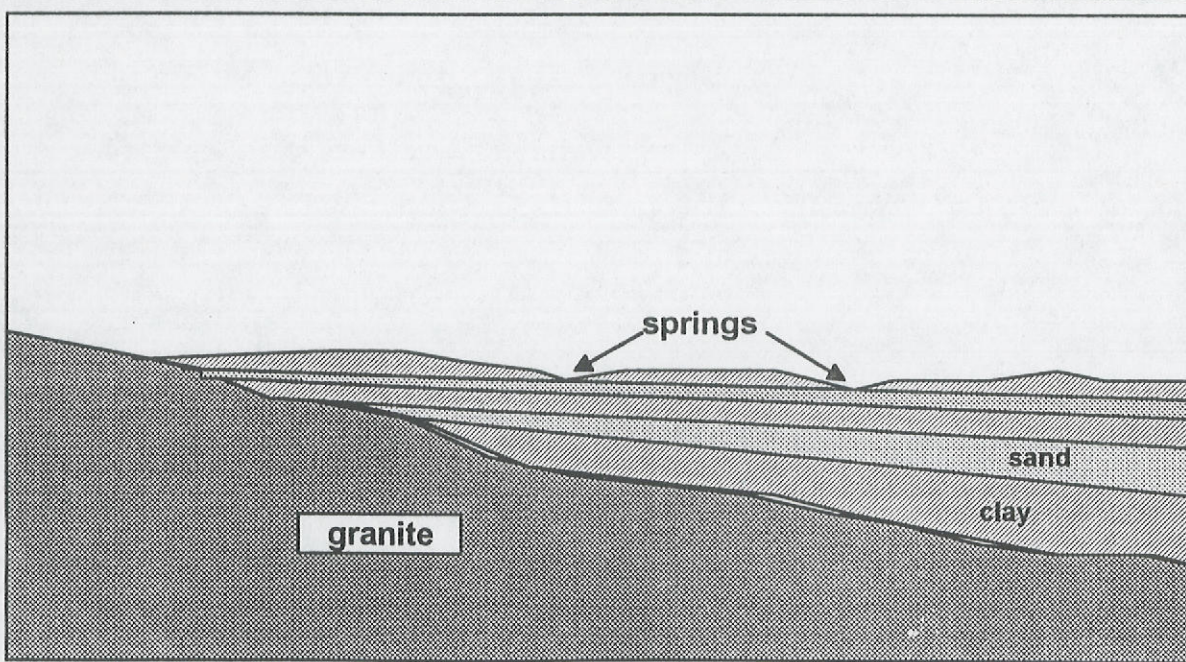
Falls W Abby
2362 Lakeshore Drive
Sagle, ID 83860

JAN 31 1996

CC. MR. ROBERT HAYNES
PERMIT # 96-08823



Scenario #1 with springs due to fractures or vertical pathways through clay.



Scenario #2 with springs due to sand layer reaching land surface.

P.O. Box 1273 Sandpoint, ID 83864
208-263-7632

JAN 31 1990

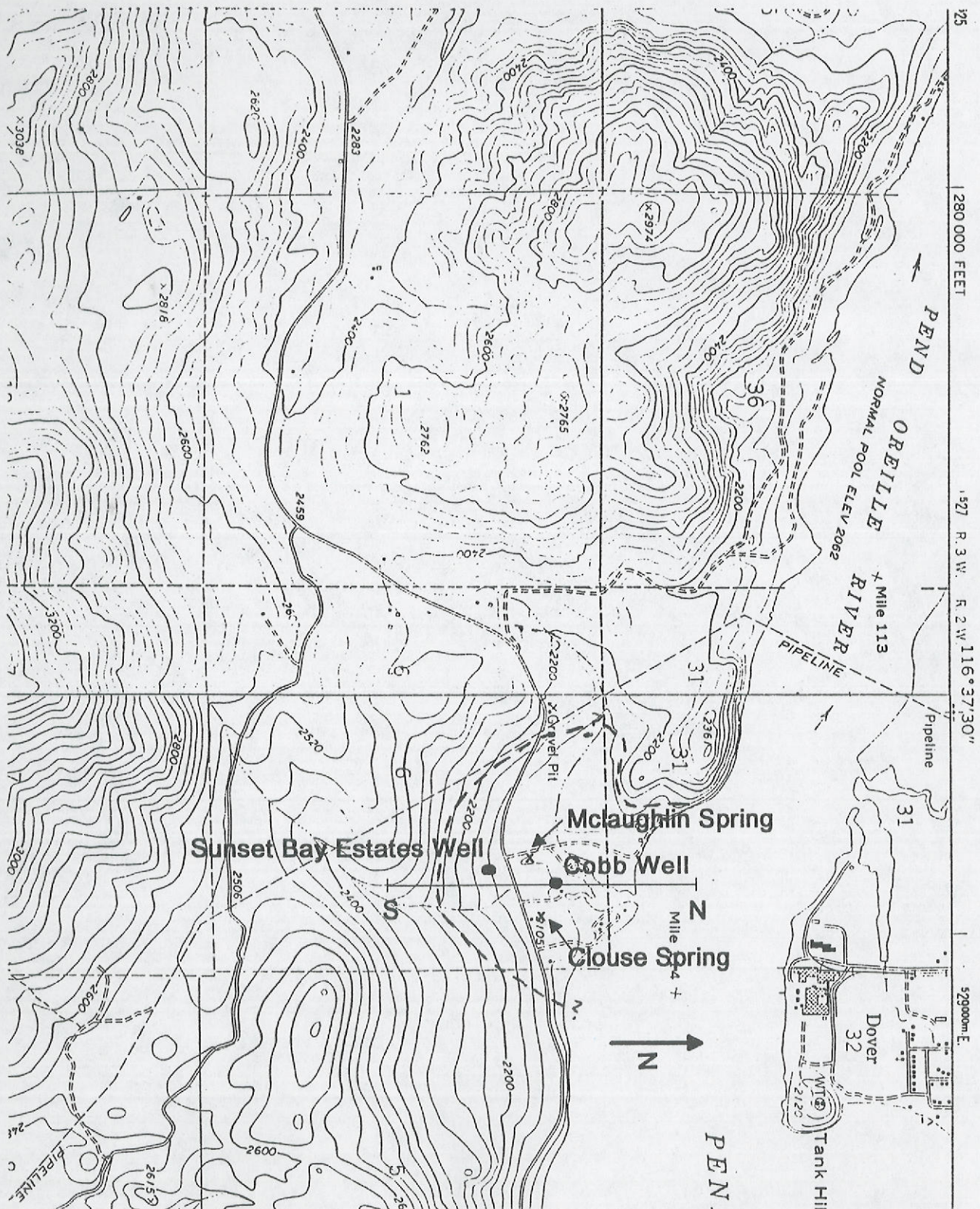


Figure 1. Location map showing approximate locations of Cobb well, Clouse and McLaughlin springs, Sunset Bay Estates well, and aquifer boundaries.

RECEIVED
JAN 31 1996

no-flow boundary and the Pend Oreille River may form a positive head boundary. The Pend Oreille River may be perched on top of the clay layers and thus may not be in direct hydraulic connection with the sand and gravel aquifer.

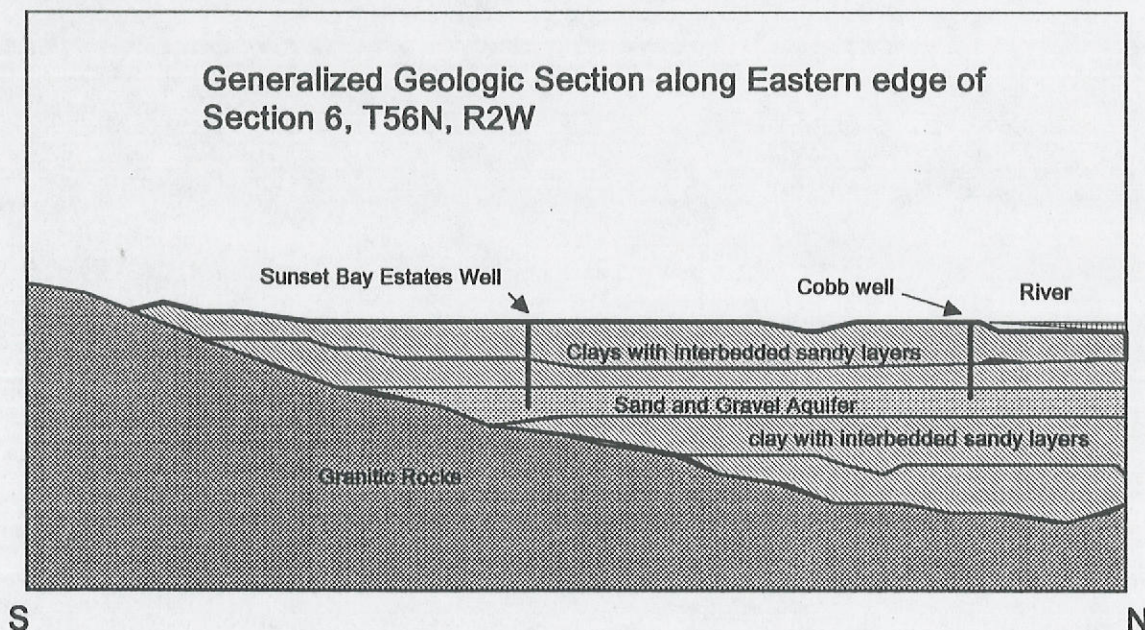


Figure 2. Geologic cross section along the east side of section 6, T56N, R2W, showing hydrogeological conceptual model for the area and the approximate locations of the Cobb well and the Sunset Bay Estates well.

Drawdown Calculations

Drawdowns at the Cobb well due to pumping from the Sunset Bay Estates well were calculated using the Theis equation for unsteady flow to a well in a confined aquifer. Several assumptions are necessary for the application of the Theis equation. The extent to which actual field conditions approach the assumed conditions determines how accurate the calculated drawdowns are. No aquifer meets the assumptions completely. Some of the assumptions necessary for application of the equation and the extent to which they are met are described below:

1. Aquifer has infinite areal extent. The cone of depression from pumping at the Sunset Bay Estates well will likely reach aquifer boundaries, so this assumption is not met. The effects of boundaries are examined using image well theory.
2. Aquifer is homogeneous, isotropic, and of uniform thickness. The aquifer probably does not meet this assumption, but the effects of these violations are probably small.
3. Aquifer potentiometric surface is initially flat. Not met but assumed to have minor effects.
4. Pumping rate is constant. The calculations presented below assume a constant discharge over one year rather than intermittent pumping.

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DEC 24 1997

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

PROOF OF BENEFICIAL USE

Department of Water Resources

The Idaho Department of Water Resources considers this form a statement that the permit holder(s) has/have completed all development that will occur under this permit and that water has been applied according to the provisions of the permit for the beneficial use(s) described below. This form must be accompanied by a license examination fee, when necessary, or be accompanied by a completed field examination report prepared by a certified water right examiner who has been appointed by the department.

1. Permit No. 96-00823 96-08823 Telephone No. 208-263-5884

2. Name(s) of Permit Holder(s): Bill Brown, Lou Vermeer

3. Mailing Address: 102 South Fourth Ave., Sandpoint, ID 83864

4. Source of Water: Grounwater If **GROUNDWATER** (well), Date Drilled: mo. June / yr. 1994

a. Well Driller: Bob Pitts and Sons, INC. Drilling Permit Number: 96-94-11-127-000

b. **OPTIONAL:**
Pump Horsepower: 5 H.P. Pressure (psi): 45 Dynamic pumping level (ft): 0

5. Use(s) (as authorized by the water right permit):

Domestic (No. of households): 17 Stockwater (No. and type of stock): _____

Irrigation (No. of acres): 9 Other: _____

6. Total rate of diversion and/or volume for which proof is submitted: 0.10 cfs OR _____ acre feet

7. Measuring Device Requirement: (refer to the approval conditions on your permit and respond accordingly)

(This question is not optional. Please check either yes or no. Proofs returned not checked accordingly, will be considered incomplete)

Measuring Device: Is a measuring device required? Yes X or No _____

Has the measuring device been installed? Yes X or No _____

Flow Measurement Port: Is a flow measurement port required? Yes _____ or No X

Has the measurement port been installed? Yes _____ or No X

8. Fee Enclosed: \$ 50.00 (See Fee Schedule on back of the instructions for filing proof of beneficial use)

9. Person to contact to accompany the Department representative during field examination of the water system.

Name: Lou Vermeer Telephone Number: 208-263-5884

Address: 102 South Fourth Ave., Sandpoint, ID 83864

10. The information given on this form 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.

Signature of permit holder: Bill Brown Lou Vermeer Date: 12/22/97
(include your title, if on behalf of company of organization)

MICROFILMED

ADD 2 1000

State of Idaho
Department of Water Resources
Permit To Appropriate Water

NO. 96-08823

Proposed Priority: September 8, 1994 Maximum Diversion Rate: 0.05 CFS

This is to certify, that **BILL BROWN**

LOU VERMEER

102 S 4TH AVE

SANDPOINT ID 83864

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	03/15 to 11/15	0.05 CFS
DOMESTIC	01/01 to 12/31	0.05 CFS
	Totals	0.05 CFS

LOCATION OF POINT(S) OF DIVERSION:

SWNE , Sec. 6, Township 56N, Range 02W
BONNER County

PLACE OF USE: IRRIGATION

<u>TWN</u>	<u>RGE</u>	<u>SEC</u>	<u>ACRES</u>	<u>ACRES</u>	<u>ACRES</u>	<u>TOTAL</u>
56N	02W	6	NENE	4.0		4.0
57N	02W	31	SESE	5.0		5.0

Total number of acres irrigated: 9.0

PLACE OF USE: DOMESTIC, same as IRRIGATION use

CONDITIONS OF APPROVAL AND REMARKS

1. Proof of construction of works and application of water to beneficial use shall be submitted on or before **January 1, 1998**.
2. Subject to all prior water rights.
3. Project construction shall commence within one year from the date of permit issuance and shall proceed diligently to completion unless it can be shown to the satisfaction of the Director of the Department of Water Resources that delays were due to circumstances over which permit holder had no control.
4. After specific notification by the department, the right holder shall install a suitable measuring device or shall enter into an agreement with the department to determine the amount of water diverted from power records and shall annually report the information to the department.
5. The rate of diversion of water for irrigation under this right and all other water rights on the same land shall not exceed 0.02 cubic feet per second for each acre of land.
6. The issuance of this right does not grant any right-of-way or easement across the land of another.
7. Places of use include Lots 1-13, Sunset Bay Subdivision.
8. Domestic use is for 17 homes.
9. Domestic use does not include lawn, garden, landscape, or other types of irrigation.

APPROVED
JAN 31 1996

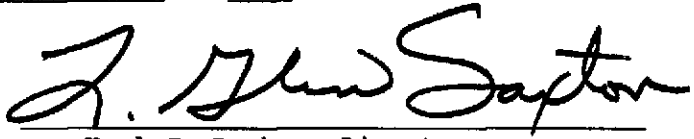
State of Idaho
Department of Water Resources

Permit To Appropriate Water

NO. 96-08823

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

19th day of December, 1995


for Karl J. Dreher, Director

RECEIVED
JAN 31 1996

RECEIVED
SEP 05 1995

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT

Ident. No. 96-08823

Department of Water Resources appropriate the public waters of the State of Idaho

1. Name of applicant Bill Brown & Lou Vermeer Phone 208-263-5884
Post office address 102 S. 4th Ave. Supt, ID. 83864

2. Source of water supply Well & Groundwater which is a tributary of _____

3. Location of point of diversion is _____ 1/4 of SW 1/4 of NE 1/4, Govt. Lot _____

Sec. 6 Township 56 N Range 2 W B.M. Bonner County; additional

points of diversion if any: _____

4. Water will be used for the following purposes:
Reduced pursuant to letter dated 8/23/95

Amount 0.049 for Domestic purposes from 01/01 to 12/31 (both dates inclusive)
(cfs or acre-feet per annum)

Amount 0.049 for Irrigation purposes from 03/15 to 11/15 (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)

5. Total quantity to be appropriated is (a) 0.10 and/or (b) 0.049
cubic feet per second acre feet per annum

6. Proposed diverting works:

a. Description of ditches, flumes, pumps, headgates, etc. 5 H.P. pump in well

b. Height of storage dam N/A feet; active reservoir capacity N/A acre-feet; total
reservoir capacity N/A acre-feet; period of year when water will be diverted to storage:
_____ to _____ inclusive.

c. Proposed well diameter is 5 1/2 inches; proposed depth of well is 190 feet.

d. Is ground water with a temperature of greater than 85°F being sought? No

e. If well is already drilled, when? June, 1994 Drilling firm Bob Pitts & Sons, Inc.

Well was drilled for (well owner) Bill Brown & Lou Vermeer JAN 31 1996

7. Time required for the completion of the works and application of the water to be proposed beneficial use is
2 years years (minimum 1 year).

* rounded to nearest 1/100th per department standards 9/7/95 cz.

8. Description of proposed uses (if irrigation only, go to item 9):

- a. Hydropower; show total feet of head and proposed capacity in KW. _____
- b. Stockwatering; list number and kind of livestock. _____
- c. Municipal; show name of municipality. _____
- d. Domestic; show number of households. 25 Max.
- e. Other; describe fully. _____

9. Description of place of use:

- a. If water is for irrigation, indicate acreage in each subdivision in the tabulation below.
- b. If water is used for other purposes, place a symbol of the use (example: D for Domestic) in the corresponding place of use below. See instructions for standard symbols.

TWP	RANGE	SEC.	NE¼				NW¼				SW¼				SE¼				TOTALS
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	
56N	2W	6	4																4
		6	D																
57N	2W	31															5		5
		31															D		

Total number of acres to be irrigated 9

10. Describe any other water rights used for the same purposes as described above. _____

11. a. Who owns the property at the point of diversion? Dan Jacobson

b. Who owns the land to be irrigated or place of use? Bill Brown & Lou Vermeer

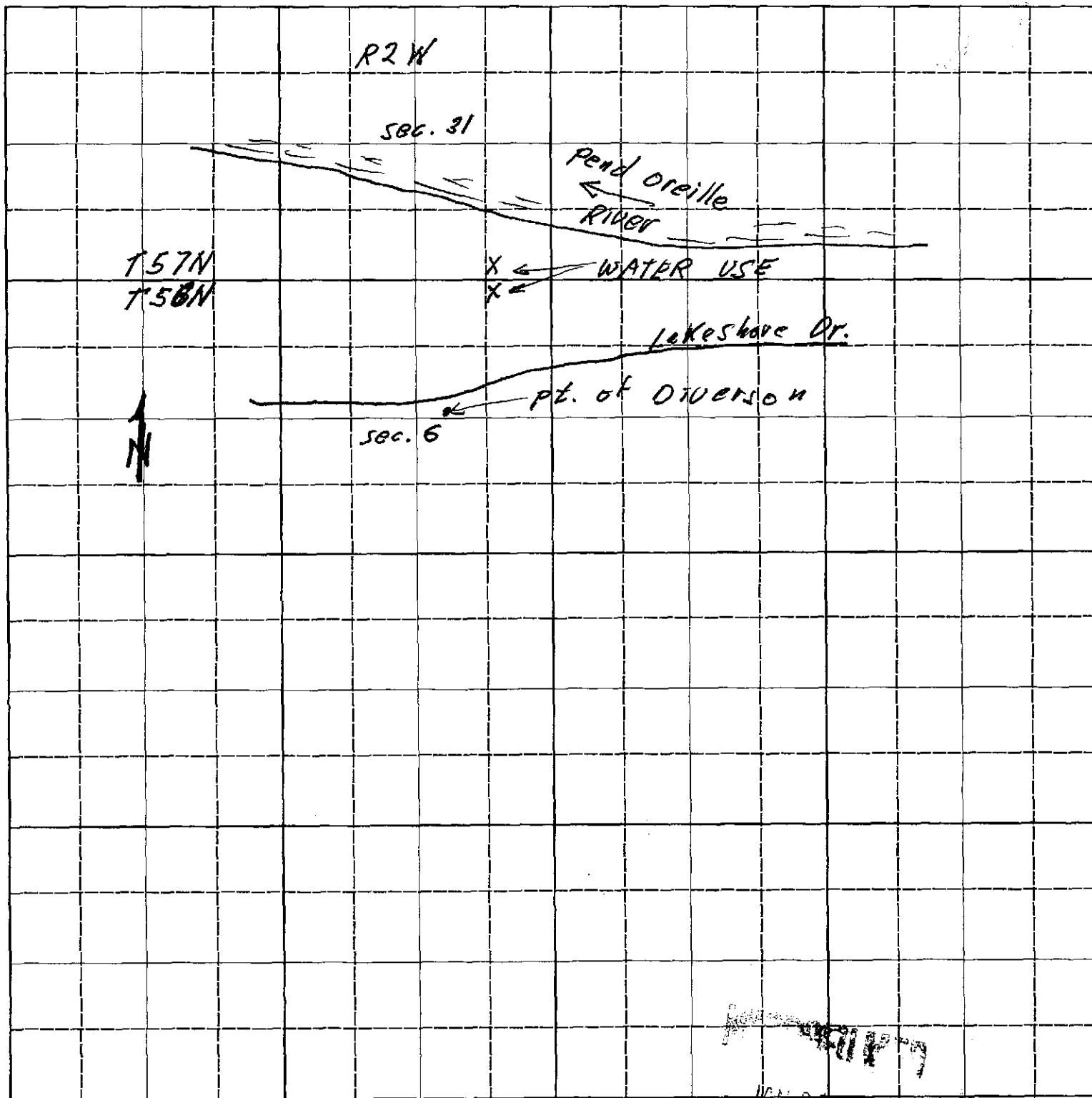
c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing. The land owned by the applicants is Sunset Bay Estates Subd. - No lots sold @ this time.

12. Remarks: The water system is presently owned by Bill Brown & Lou Vermeer but may be transferred to the property owners @ a later date.

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01 1996

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



Scale: 2 inches equal 1 mile.

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

Bill Brown

(Applicant)

Joe Jensen

Received by RJC Date 9/8/94 Time 2:26p Preliminary check by AS
Fee \$ 50.00 Receipted by RJC # N8185 Date 9/8/94
Publication prepared by RJC Date 9/28/94 Published in Zimmerman Co. Daily Bee 146912/94
Publication approved JB Date 11/7/94

ACTION OF THE DIRECTOR, DEPARTMENT OF WATER RESOURCES

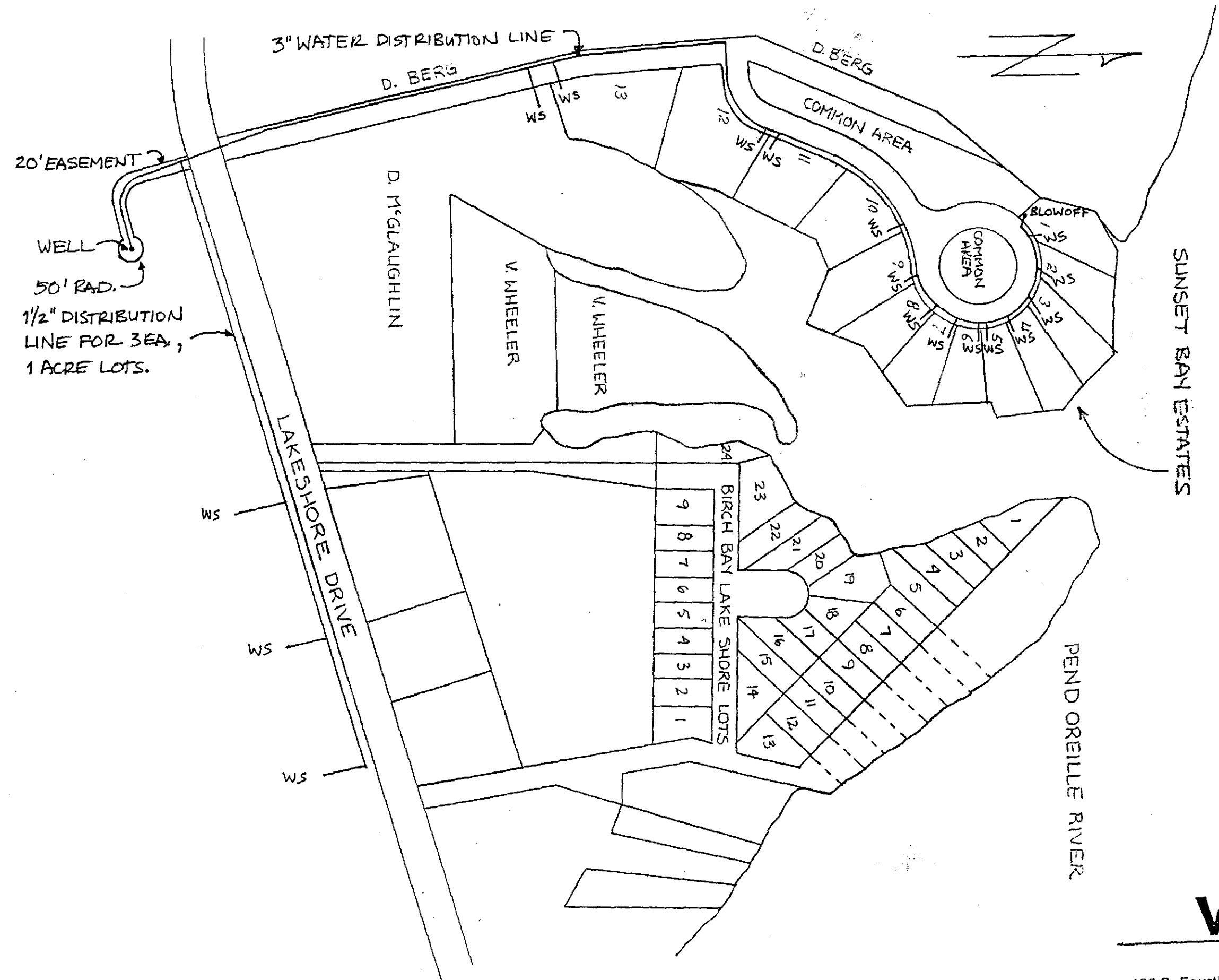
This is to certify that I have examined Application for Permit to appropriate the public waters of the State of Idaho No. _____, and said application is hereby _____.

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. The water right acquired under this permit if for hydropower purposes shall be junior and subordinate to all rights to the use of water, other than hydropower, within the State of Idaho that are initiated later in time than the priority of this permit and shall not give rise to any right or claim against any future rights to the use of water, other than hydropower, within the State of Idaho initiated later in time than the priority of this permit.
- e. Other:

JAN 31 1996

SUNSET BAY ESTATES WATER SYSTEM 1" = 200'



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NOV 13 1995
Department of Health & Human Services



State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000

Phone: (208) 327-7900 FAX: (208) 327-7866

**PHILIP E. BATT
GOVERNOR**

**KARL J. DREHER
DIRECTOR**

February 23, 1998

Bill Brown
Lou Vermer
102 S 4th Ave
Sandpoint ID 83864

PROOF ACKNOWLEDGMENT LETTER

RE: PERMIT NO. 96-08823

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.

Be advised that Section 42-248, Idaho Code, requires you or the owner of this water right to maintain current ownership and address records on file with the department. Forms to file a change of ownership of a water right and/or a change in the address of the water right owner are available from any department office.

If you have questions concerning the field examination, please contact the department's **Northern** Regional Office in Coeur d'Alene at (208)769-1450.

Sincerely,

JULIE L. YARBROUGH
Senior Secretary, Water Allocation Bureau

c: IDWR - Regional Office

MICROFILMED
APR 28 1998

ANALYSIS SHEET
FOR
PROOF OF BENEFICIAL USE

Permit No. 96-08823 Reviewed by Jy Date 2-19-98

GENERAL CONSIDERATIONS

TYPES OF USE

yes Name same as permit?
yes Address same as permit?
yes Proof timely received? Correct Uses? yes
If not, complete calculation below.

SOURCE OF WATER

 Surface water source
✓ Ground water source
yes Drilling permit required?
no Copy in the file? Drilling Permit No. 96-94-N-0127-000
200- Amount paid for permit yes Correct?
no Well log in the file?

LICENSE EXAMINATION FEE

MEASURING DEVICE

yes Required?
50- Amount Submitted
yes Correct?
no Required?
yes Installed?
 Waiver requested?

PRIORITY CALCULATION

Date proof received _____
Date proof due _____
No. of days late _____
Priority Date _____
New Priority Date _____

DEFICIENCIES OR ACTION ITEMS

Advise that permit only authorizes .05 / not .10.
Proof acceptable

DATA ENTRY

New Address _____ Proof Made 12-24-98

October 31, 1997

BILL BROWN
LOU VERMEER
102 S 4TH AVE
SANDPOINT ID 83864

PROOF DUE NOTICE

RE: PERMIT NO. 96-08823

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 January 1, 1998.

(See last page of your approved permit or your last approved extension request.) Enclosed is a form which when accompanied by the license examination fee or a complete field examination report prepared by a certified water right examiner may be used to submit the required proof.

If you have not fully completed your project, and you or a previous owner of this permit have not received a prior extension of time, you may request an extension of time if the delay is for reasonable cause as provided in Section 42-204, Idaho Code. If you have been prevented from proceeding by a governmental agency or by litigation which might bring title to the water in question, more than one extension of time can be granted. An extension of time request form is enclosed for your convenience.

Either an acceptable proof of beneficial use submittal or an acceptable request for an extension of time must be received by this department on or before the above described proof due date. If neither is received, the department will send you a lapse notice. Within sixty (60) days of the mailing of the lapse notice, the permit will no longer be of any force nor effect.

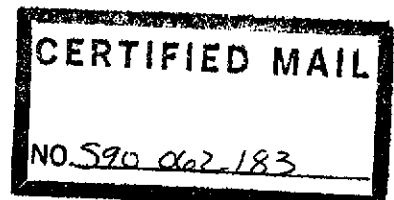
SINCERELY,

JULIE L. YARBROUGH
Senior Secretary

Enclosures

MICROFILMED

APR 28 1998





State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000

Phone: (208) 327-7900 FAX: (208) 327-7866

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

December 19, 1995

BILL BROWN
LOU VERMEER
102 S 4TH AVE
SANDPOINT ID 83864

PERMIT APPROVAL NOTICE

RE: PERMIT NO. 96-08823

Dear Permit Holder:

Enclosed is a copy of your approved application for permit. Please be sure to thoroughly review the "CONDITIONS/REMARKS:" listing on the permit.

As a permit owner you must commence the excavation or construction of the diverting works within one year of the date the permit was issued, and you must proceed diligently until the project is completed. The date shown under condition no. 1 is the date when the project must be completed.

The Department will send you a "Proof Due Notice" approximately 60 days prior to the above referenced date requesting you to file either a Proof of Beneficial Use form or a Request for Extension of Time form.

Sincerely,

A handwritten signature in cursive script that reads 'Shelley W. Keen'.

Shelley W. Keen
Water Rights Supervisor

SK:rl

Enclosures

MAILED

JAN 31 1996

APPLICATION FOR PERMIT
STATE OFFICE REVIEW
by Cindy Zimmerman

No.: 96-8813 Name: Brown/Vermeer Date: 12/18/95 Ad OK? ✓
Correct Fee? ✓ Receipt #: N8195 Priority: 9/8/94 ✓ Gvmt Lts: ✓

AREA OF CONCERN? - No/Yes _____ Mor _____ GWMA Trust/Non-trust
PROTESTED: withdrawn - 020(Protest Agr) or W19(See Final/Prelim Order)

SYSTEM COMPLETED:

Yes/proof filed

- NA

~~1 year~~/no proof

- P16

+1 year

- 26A-P17

GROUNDWATER: <✓ FLO-CH>

+ 0.2 cfs

- 01M

=/- 0.2 cfs

- No MD

=/+ 5 a.

- 01M, ~~065~~ if GW use SW 1st)

Drilling Permit:

Existing well

- NA (pre 7/1/87)

Included w/permit

- Permit No. _____, P99

No WD permit?

- 046-46B-P23 (post 7/1/87)

irr. in WD

- P05 (new well)

SURFACE WATER <✓ FLO-CH> (Surface water that doesn't sink is regulated):

Water District(~~dem~~)

- 005 (req) WD # _____ <SEE MAP & LISTING>

+ 0.2 cfs

- 028(may report)-01J(meas dev)-P08

=/- 0.2 cfs

- 028(may report)-01H(lock dev)-P01 or No MD

=/+ 5 a. irr.

- 028(may report)

In-WD + 0.2 cfs

- 01M or No MD (in-stream)

- 0.2 cfs

- No MD

=/+ 5 a. irr.

- 01M

RIVER BASINS (*Surface water):

Snake R (01)

- 11A-P04, NA

(02/03-irr)

- 007-P07 (w/remark WB9-† Weiser), NA

Boise R (63)

- 05A (if WD), 11E (not 42-111 use), NA

Payette R (65)

- 064(regulated uses), 047-P04(Payette Lake), NA

USE:

Domestic (surface)

- 021(Boise R † L Peak); 27A(Payette R); NA

Fish Propagation

- 07A-042(rq)-010/06A/09E(WQ)-P10; 044(N 1000 Spr)

Irr <POU> =/- 5 a

- 057 (0.03 cfs/A)

+ 5 a

- 03A (0.02 cfs/A)

Mining

- 054 (req) & 06A/010/09E-P10

Power

- 08A-17K-025-027-01M-01F(P19)-09E(P10);

+25 cfs-P18; 17G(FERC) or 17M(FERE); 18B-P09

Storage(✓ 3 compo.)

- 18A(multi MD in WD), 18B-P09 (+10' dam), NA

LOCATION:

Boise Front LoGeo

- 058 (-85° GW temp only)

In-stream dev.

- P52 (stream channel alteration)

Irr Dist/Canal Co.

- 023 (Twin Falls area)

Swan Falls Flag

- B <SEE CODE CHART>

Trust

- 051-052-053-P74 (Consumptive Uses), NA

Non-Trust <1>

- 048-049 (Consumptive Uses), NA

OWNERSHIP: Non-land owner

- 004 (PD/PU) Dave Jacobsen / agreement

OTHER CONDITIONS:

STANDARD REMARKS:

① WBE/17. ② PU = Lf1-13, Sweet Bay Subdivision

BENEFICIAL USE DUE:

- 1-1-1998

COMMENTS:

MEMORANDUM

DATE: November 3, 1995
TO: File No. 96-08823
FROM: Cindy Zimmerman
SUBJECT: Telephone Conversation

Per telecon today with Scott Brown of Vermeer Engineering, he will send subdivision plat. Mr. Brown has requested an additional two weeks to submit the plat.

I agreed to hold processing of this application for two weeks. I explained to Mr. Brown that if I did not receive the requested additional information within the two week period, I would have to start proceedings to void this application.

MICROFILMED

JAN 31 1996



State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000

Phone: (208) 327-7900 FAX: (208) 327-7866

October 4, 1995

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

BILL BROWN
LOU VERMEER
102 S 4TH AVE
SANDPOINT ID 83364

RE: Application for Permit No. 96-08823

Dear Sirs:

In my letter of September 7, 1995, I requested additional information pertaining to this application; specifically, I requested that you submit to the department a copy of the subdivision plat showing the location of the homes identified on this application.

I have not received this requested information. I need the subdivision plat to clarify water diverted.

The purpose of this letter is to again request that you provide a subdivision plat identifying the location of the well, the location of housing and commercial lots, and any common or non-domestic areas, as well as the size of each lot.

I will hold processing on your application for 30 days. If I do not receive the requested additional information within the 30-day period, I will start proceedings to void this application.

If you have any questions in regard to this matter, please feel free to contact me directly at 208/327-7944.

Respectfully,

Cindy Zimmerman
Water Resource Agent

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JAN 31 1996



State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000

Phone: (208) 327-7900 FAX: (208) 327-7866

September 7, 1995

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

BILL BROWN
LOU VERMEER
102 S 4TH AVE
SANDPOINT ID 83364

RE: Application for Permit No. 96-08823

Dear Sirs:

The above referenced application has been sent to the State Office for final review and processing; however, before the application process can continue, I will need some additional information.

The application lists a domestic use for 25 homes within Sunset Bay Estates, but a subdivision plat identifying the location of these homes was not included with the application. I need the subdivision plat to clarify where water will be diverted. Please provide a subdivision plat identifying the location of the well, the location of any common or non-domestic areas, as well as the size of each lot.

I will hold further processing on your application for 14 days pending your response. Please submit this information as quickly as possible within the 14-day period to prevent any further undue delay in processing your application.

If you have any questions, please feel free to contact me at (208) 327-7944.

Sincerely,

Cindy Zimmerman
Water Resource Agent

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JAN 31 1996

No. a
4/87-06/92n

DEPARTMENT OF WATER RESOURCES
APPROPRIATION APPLICATION ANALYSIS SHEET

RECEIVED
SEP 05 1995

APPLICATION # 96-08823

Department of Water Resources

***** INITIAL REVIEW *****

APPLICANT: BROWN/VERMEER BY: MB DATE: 9/19/94

ITEM REQUIRED INFORMATION

1. (X) Name and Address
2. (X) Source
3. (X) Point of Diversion & County
4. (X) Quantity
(X) Nature of Proposed Use
(X) Period of Use
5. (X) Total Quantity
6. (X) Description of diverting works
7. (X) Time required for b/u
8. (X) Proposed use
9. (X) Place of use or acres irrigated
10. (X) Other Water Rights
11. (X) Ownership
13. (X) Map
(X) Signature
(X) Fee (Amt, recpt, acknowlegment)

*** Send info sheet Y() N()

ADDITIONAL INFORMATION

Yes No

- X Field check: by _____
X Field report attached
X Analysis Supp. attached(>5cfs/500af)
X Water delivered by water master?
Water District # _____

PROCESSING

Yes No

PRIORITY DATE: 9/8/94

X (Include Moratorium Remark)

X Statewide Avertising: (Diversion rate greater than 10 cfs or 1,000 af).

ADVERTISE IN: BONNER County.

LETTERS SENT REQUESTING:

() Dam Information () Fish Information

() Power Information () Other: N/A

INFORMATION RECEIVED:

() Dam Information () Fish Information

() Power Information () Other: N/A

***** GROUNDWATER SECTION *****

(Yes) (No)

- X Groundwater management area
X Critical ground water area
X Well Drilling Permit required
Well Drilling Application and Fees received
Well Drilling Application approved?
Well Drilling Application Number 96-94-P-127

Checked by: _____ Date: ____/____/____

Remarks: _____

***** FINAL REGIONAL PROCESSING/REVIEW *****

(Yes) (No)

- Notice of pending void order issued. Final order response date: ____/____/____
Further information required from applicant
X Affidavit of publication received
X Application published correctly, If not, record action taken: _____
Publication dates and paper recorded on application
X Protests received. Final protest date: 10/24/94 Sr. Agent initial MB
X Measuring device required
X Measuring port required
X Special conditions: No Modification to well or pumping system without approval of
X Special conditions of approval supplement and/or cover letter attached: Dept.

Approval Recommended by: MB Date: 8/30/95

MEMORANDUM

To: File 96-08823

From: Bob Haynes *RyB*

Date: August 30, 1995

Subject: Fields Cobb's letter withdrawing his protest

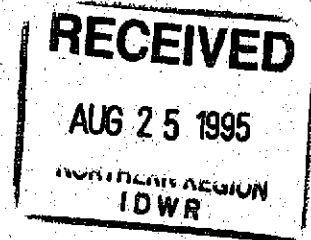
In his letter withdrawing his protest, Mr. Cobb mentions "11 gpm or 22 gpm, whichever is applicable". The pump test that was done to determine if there was going to be any effect on his well from pumping the well for this permit started out pumping at 22 gpm but the sustained yield of the well dropped to 11 gpm after pumping for 9 hours. Mr. Cobb indicates he is satisfied with the results of the test so the action of the applicants in reducing the amount to 22 gpm or 0.049 cfs should be acceptable.

RECEIVED

JAN 31 1996

VERMEER ENGINEERING

August 23, 1995



Mr. Robert G. Haynes, P.E.
Regional Manager
Dept. of Water Resources
Suite 210, 1910 Northwest Blvd.
Coeur d'Alene, ID 83814-2615

Re: Application for Permit 96-08823

Dear Mr. Haynes;

With this letter Bill Brown and Lou Vermeer will limit the use of water for Sunset Bay Estates to twenty two (22) gallons per minute. We hope this will satisfy the concerns of Fields Cobb and your department. Thank you.

Very Truly Yours,

Louis F. Vermeer, P.E.
VERMEER ENGINEERING

LFV/pl

INDEXED

JAN 31 1996



State of Idaho
DEPARTMENT OF WATER RESOURCES

NORTHERN REGION,
(208) 769-1450

Suite No. 210 • 1910 Northwest Blvd. • Coeur d'Alene, Idaho 83814-2615

~~FAX (208) 769-1454~~

Fax (208) 769-1454

CECIL D. ANDRUS
Governor

R. KEITH HIGGINSON
Director

TRANSMITTAL COVER SHEET

OMNIFAX G66i

Phone No.: (208) 769-1454

TO: BROWN

FROM: BEAROSLIFE

DOCUMENT DESCRIPTION: PLEASE RESPOND BY LETTER
IF TERMS ARE ACCEPTABLE.

TOTAL PAGES SENT: 1 + 1 COVER SHEET

CONTACT: RL

(Name of sender)

Charges: One (1) free copy per request, cover sheet not counted. Two (2) or
more copies per request are \$0.25 per page with a \$0.50 minimum.

Please consider this document as a billing statement. The charge for your
FAX copies is \$ _____. Please remit to the above address.

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JAN 31 1996

8/4
Bill said he and Vermeer did not have a
problem with Fields letter and will get us
something in writing asap.

Mr. Robert T. Haynes

Mr. Al Beardsley

Dept. Water Resources, NO. Reg.

1910 Northwest Blvd., Suite 210

Coeur d'Alene, ID 83814-2615

July 10, 1995

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JUL 11 1995

NORTHWEST DIVISION
IDWR

Dear Sirs:

At the conference on May 31, 1995 my wife, Octavia, and I agreed to withdraw our objections and request for appeal of the water right application filed by Brown and Van Meek for a well to serve Sunset Bay Subdivision contingent upon (1) a favorable report based on a 12-hour well test and (2) a revised, up-to-date, and accurate application prepared by the developers. We have received the favorable report from Mr. Beardsley by phone. We accept the results of that report and the assurance that any attempt to increase the flow from that well above 11 gal/minute or 22 gal/minute, whichever is applicable, must be preceded by a second or revised application for which we will receive notification.

Hence, we remove our request for the appeal and the hearing based upon receipt of the revised application agreed to in conference.

Thank you very much.

Sincerely yours,
Felix W. Obley

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JAN 31 1996

WELL OBSERVATION MEMORANDUM

DATE: June 15, 1995

SUBJECT: VERMEER / BROWN & COBB'S WELLS

~~~~~  
A twelve hour pump monitoring observation was conducted June 15, 1995, to determine if Vermeer/Brown's well had an affect on Cobb's well.

Mr. Vermeer started pumping his well at 6:00 AM and ended at 6:00 PM. The production of the well steadily decreased from 22 gpm, which resulted in a dynamic water level drop to 159 ft. during the first hour. Holding at a level near 160 ft., the well's productivity dropped to a rate of 11 GPM for the last three hours of the observation.

No change occurred on Cobb's well during the twelve hour test.

Cobb's Well  
~~~~~

Vermeer/Brown's well
~~~~~

|           | time  | dynamic | Q       |
|-----------|-------|---------|---------|
| No Change | 6 am  | 110'    | 22gpm   |
|           | 6:30  | 130'    |         |
|           | 6:45  | 150'    |         |
|           | 7:00  | 160'    |         |
|           | 7:12  | 159'    | 18.3gpm |
|           | 7:20  | 159.5'  |         |
|           | 8:45  | 165'    | 15gpm   |
|           | 10:00 | 164'    |         |
|           | 10:40 | 161'    |         |
|           | 12 pm | 160.5'  | 13.2gpm |
|           | 1:00  | 164.5'  |         |
|           | 2:00  | 163'    | 12.7gpm |
|           | 3:00  | 165'    | 11gpm   |
|           | 4:00  | 160.5'  |         |
|           | 5:00  | 161.5'  |         |
|           | 6:00  | 163'    | 11gpm   |

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JAN 31 1996

PUBLIC HEARING

File: 96-08823 - BROWN/VERMEER  
Date: MAY 31, 1995  
Time: 8:00 A.M.  
Place: 1910 NORTHWEST BLVD., SUITE 210  
COEUR D'ALENE, ID 83814

ROSTER OF ATTENDANCE

NAME

ADDRESS

JOHN A. RILEY

P.O. Box 453 POST FALLS, ID.

BILL BROWN

108. S. 2<sup>ND</sup> SANDPOINT, ID

OTTAUWA COAL

2362 Lakeshore Sagle

Field W. Alf

2362 Lakeshore Sagle

RECEIVED

JAN 31 1996

**SENDER:**

- Complete items 1 and 2 for additional services.
- Complete items 3, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

**RECEIVED**

MAY 11 1995

MAIL DIVISION  
IDWR

I also wish to receive the following services (for an extra fee):

- ☐ Addressee's Address
- ☐ Restricted Delivery

Consult postmaster for fee.

## 3. Article Addressed to:

FIELDS & OCTAVIA CO.  
2362 LAKESHORE DR  
SAGLE ID 83860

4a. Article Number  
48340

## Service Type

- ☐ Registered ☐ Insured  
☒ Certified ☐ COD  
☐ Express Mail ☐ Return Receipt for Merchandise

## 7. Date of Delivery

5/10/95

## 8. Addressee's Address (Only if requested and fee is paid)

5. Signature (Addressee)

6. Signature (Agent)

UNITED STATES POSTAL SERVICE

Official Business



PENALTY FOR PRIVATE  
MAIL NOID PAYMENT  
OF POSTAGE, \$300



PAID  
MAY 31 1995

Print your name, address and ZIP Code here

DEPARTMENT OF WATER RESOURCES  
1810 NORTHWEST BLVD. - SUITE 210  
COEUR D'ALENE, IDAHO 83814

**SENDER:**

- Complete items 1 and 2 for additional services.
- Complete items 3, and 4 a b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- ☐ Addressee's Address
- ☐ Restricted Delivery

Consult postmaster for fee.

**3. Article Addressed to:**

BILL BROWN & LOU VERMEER  
102 S 4TH AVENUE  
SANDPOINT ID 83864

**4a. Article Number**

48339

**4b. Service Type**

- ☐ Registered ☐ Insured  
☒ Certified ☐ COD  
☐ Express Mail ☐ Return Receipt for Merchandise

**7. Date of Delivery**

5/10/95

**5. Signature (Addressee)****8. Addressee's Address (Only if requested and fee is paid)****6. Signature (Agent)**

*Pat LaBonte*

UNITED STATES POSTAL SERVICE



Official Business

**RECEIVED**

MAY 15 1995

NORTHERN REGION  
IDWR

PENALTY FOR PRIVATE  
USE TO AVOID PAYMENT  
OF POSTAGE, \$300



RECEIVED  
JAN 27 1996

Print your name, address and ZIP Code here

DEPARTMENT OF WATER RESOURCES  
1910 NORTHWEST BLVD. 8  
COEUR D'ALENE, IDAHO 83201

BEFORE THE DEPARTMENT OF WATER RESOURCES  
OF THE  
STATE OF IDAHO

|                                         |   |                      |
|-----------------------------------------|---|----------------------|
| IN THE MATTER OF APPLICATION            | ) |                      |
| FOR PERMIT NO. 96-08823                 | ) | NOTICE OF CONFERENCE |
| IN THE NAME OF BILL BROWN & LOU VERMEER | ) | AND/OR HEARING       |
|                                         | ) |                      |

On SEPTEMBER 8, 1994, BILL BROWN & LOU VERMEER filed with the Department of Water Resources (department) application for permit no. 96-08823. The application was protested by FIELDS & OCTAVIA COBB.

The department has scheduled the matter for conference &/or hearing on MAY 31, 1995 at 8:00 A.M., at 1910 NORTHWEST BLVD., SUITE 210, COEUR D'ALENE, ID 83814. The conference &/or hearing will be held in accordance with provisions of Chapters 2 and 17, Title 42 and Chapter 52, Title 67, Idaho Code, the adopted Rules of Procedure of the department and Water Appropriation Rules 40 and 45. A copy of the rules may be obtained from the department upon request. The presiding officer at the conference &/or hearing will be ROBERT G. HAYNES, REGIONAL MANAGER.

The conference &/or hearing will be conducted in a facility which meets the accessibility requirements of the Americans with Disabilities Act. If you require special accommodations in order to attend, participate in or understand the conference &/or hearing, please advise the department within ten (10) days prior to the conference &/or hearing.

All parties to the matter will have the opportunity to respond and present information and argument on all issues involved.

Dated this 9TH day of MAY, 1995.

Robert G. Haynes  
Regional Supervisor

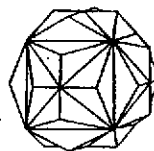
I hereby certify that on the 9th day of May, 1995, I mailed a true and correct copy, postage prepaid, of this document to the applicants(s) and protestant(s) listed below:

Dianne Ball  
Secretary

Certified Mail

✓ BILL BROWN & LOU VERMEER  
✓ FIELDS & OCTAVIA COBB

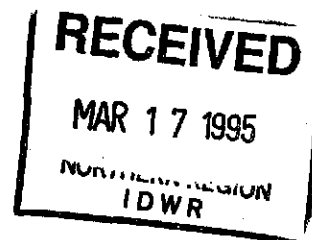
RECEIVED  
MAY 31 1995



Mr. Bill Brown  
108 S. 2nd  
Sandpoint, ID 83864

February 26, 1995

RE: Sunset Bay Estates Aquifer Test



Dear Bill,

The purpose of this letter report is to present results of a constant rate aquifer test of the Sunset Bay well, conducted on January 20, 1995. The objectives of the test were to evaluate aquifer response, identify hydraulic boundaries if any, and observe any influence on the well of Fields Cobb.

R.C. Worst conducted the test for 3 hours a constant discharge of 60 gallons per minute. Variable discharge pumping took place for an additional 2 hours and 45 minutes. Discharge was determined using the bucket and stopwatch method and regulated using a gate valve. Drawdown was measured in the pumping well on a logarithmic time scale. Depth to water was measured in the domestic well of Fields Cobb to determine any influence on that well from pumping the Sunset Bay well. Maximum drawdown in the pumping well was 171 feet; no drawdown took place in the Cobb well. The pumping well continued to pump fine sand for the duration of both the constant and variable rate tests, and the specific capacity of the pumping well declined during testing.

This report is organized into two parts. First, the results of the aquifer test are presented and discussed. Second, decrease in specific capacity and sand production problems are presented, and suggestions for remediation are discussed. Depth to water data from both wells and drawdown in the pumping well are presented in the appendix.

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JAN 31 1996

Drawdown response suggests a moderately extensive aquifer except for a no flow boundary close to the well. This response agrees with the physical setting, with an outcrop of granite south of the well and apparently extensive alluvium toward the Pend Oreille River. Figure 1 presents depth to water in the pumping well. Drawdown generally follow expected aquifer response. Rapid drawdown initially, followed by slower rate of drawdown is to be expected.

Response in the Cobb observation well demonstrates that pumping the Sunset Bay Estate well has no influence on the Cobb well. Figure 2 presents depth to water measurements from the Cobb well. Water level rises before pumping begins, presumably in response to domestic water use in the morning. Depth to water is 13.77 feet before pumping begins, and rises during pumping to 13.75 feet.

Declining water levels during pumping would demonstrate interference from the Sunset Bay well. However, the opposite occurred, showing that operation of the Sunset Bay well does not interfere with the Cobb well. Calculations based on the transmissivity of the Sunset Bay well (presented subsequently) and an assumed storativity of  $10^{-4}$ , indicate that 0.38 feet of drawdown in the Cobb well could be expected at the end of the 6 hour test. In fact no drawdown occurred.

Ideal aquifer response results in a straight line when drawdown is plotted against the log of time. Deviation from a straight line response can represent aquifer heterogeneities or boundaries. Drawdown versus the log of time is presented in Figure 3. Two slopes appear in the response data. The slope is steeper for later time data than early time data. Early time data response may deviate from ideal because underlying assumptions in the mathematical development are violated. However, the change in slope may represent an aquifer boundary condition. A granitic outcrop exists south of the well, and preliminary excavation south of the well indicate depth to bedrock is shallow. These hardrock formations constitute a negative boundary to the alluvial aquifer. The steeper slope reflects the response of the remaining alluvium.

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# Pumping Well

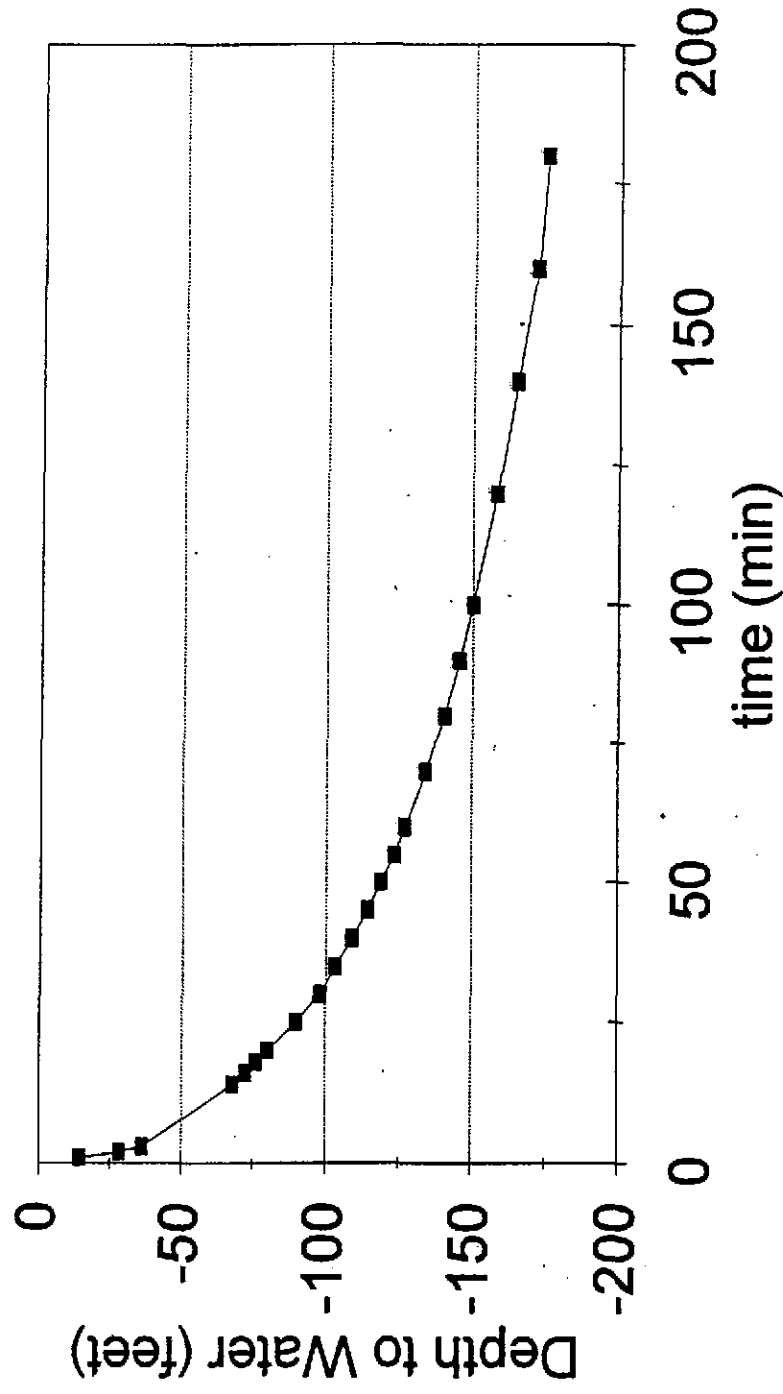


FIGURE 1. Depth to water in pumping well.

**Mr. [illegible]**

JAN 31 1996

# Observation Well

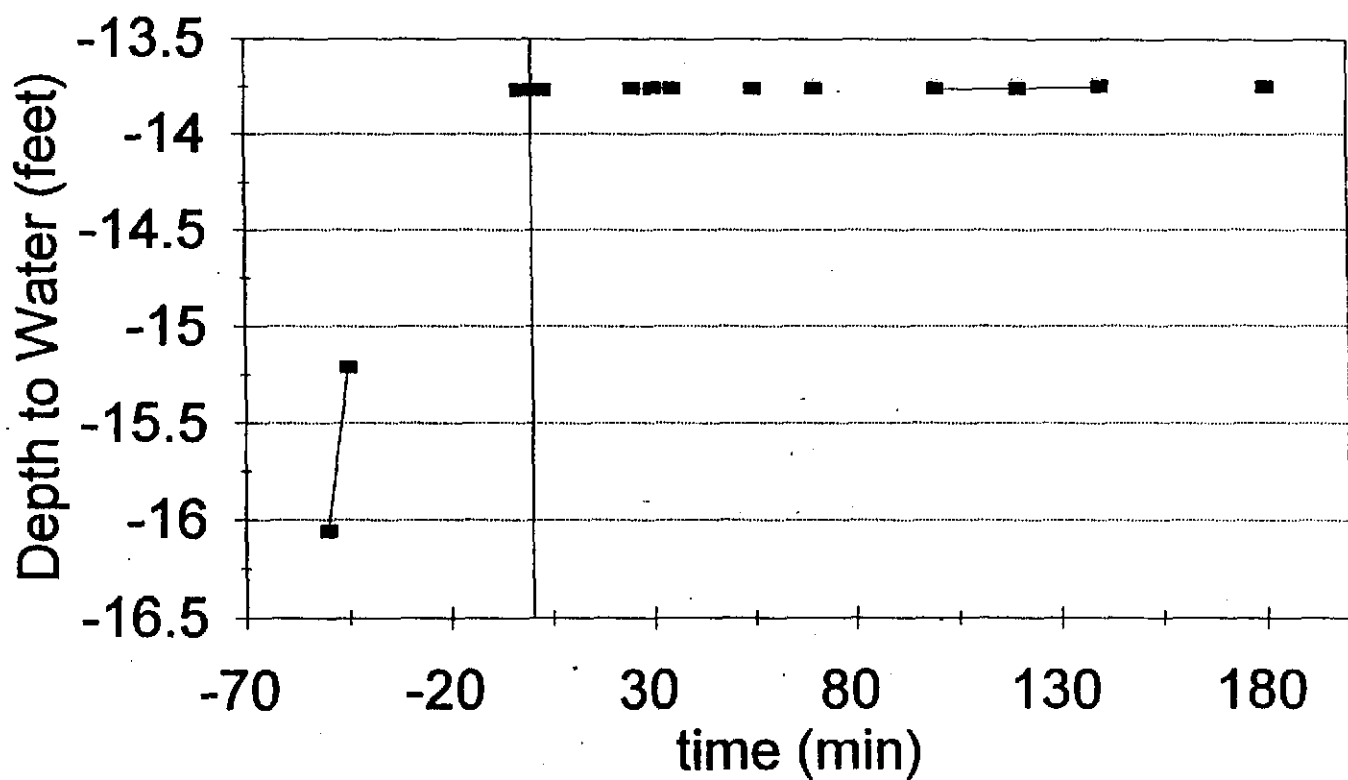


FIGURE 2. Depth to water in Cobb well.

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JAN 31 1996

# Pumping Well

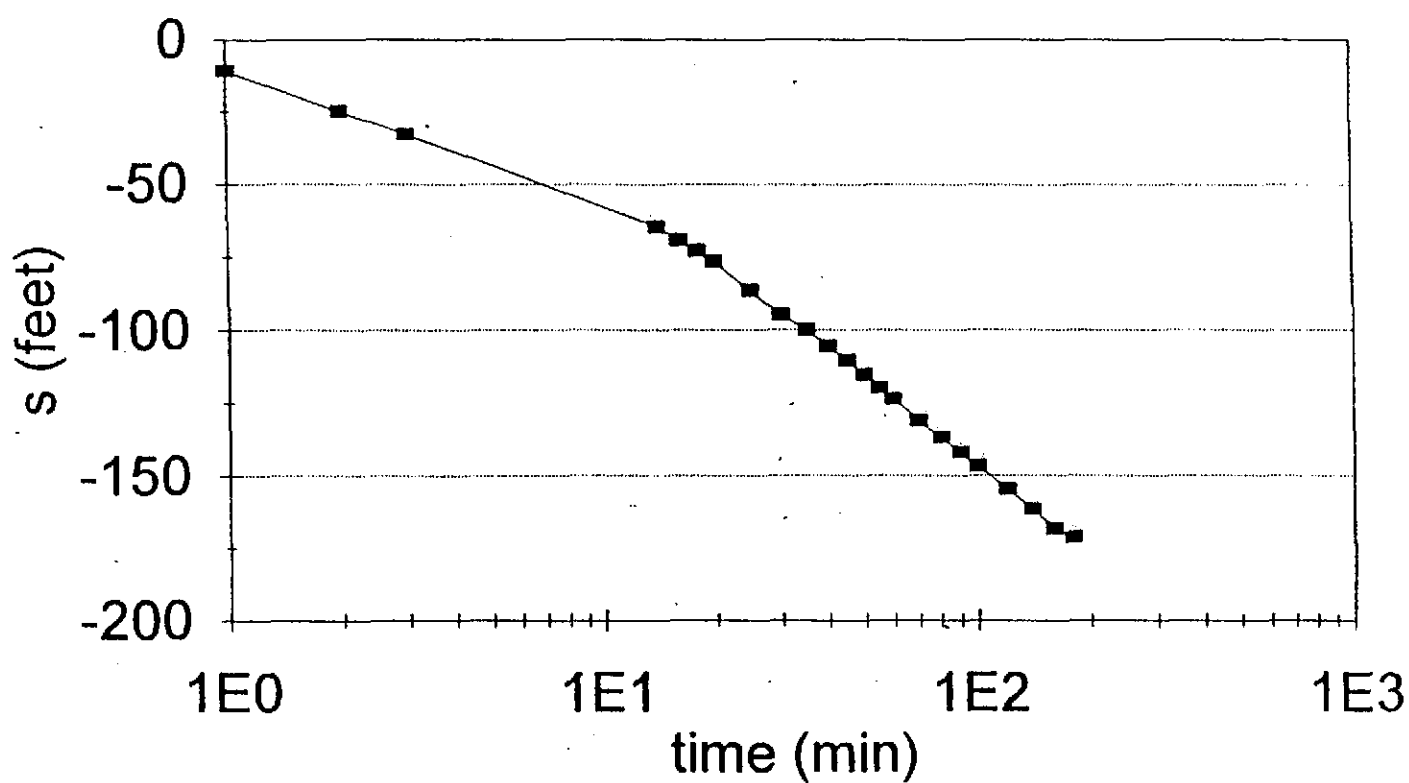


FIGURE 3. Drawdown in pumping well.

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JAN 31 1996

Aquifer transmissivity is calculated (by the Cooper straight line method) based on the amount of drawdown per log cycle of time during a constant rate pumping test. Storativity cannot be determined based on the response of the pumping well. Based on a pumping rate of 60 gallons per minute and observed drawdown of 110 feet per log cycle of time, the transmissivity is 19 feet<sup>2</sup> per day. Expected drawdown at any specific time is directly proportional to pumping rate based on aquifer characteristics.

## SAND PRODUCTION AND DECREASE IN SPECIFIC CAPACITY

The well produced sand and turbid water for the duration of the 6 hour test. The specific capacity of the well decreased after the first hour of pumping, indicating a possible change in well efficiency. The decrease in specific capacity is presented in Figure 4. The specific capacity decreased from 0.83 gpm/ft. at minute 14 to 0.015 gpm/ft. at minute 305. The total depth of the well was 184 feet from the top of casing. Originally, the well was 191 feet deep from the top of the casing. This indicates that seven feet of fill has entered the well, effectively blocking the screen except for the top 3 feet. This could result in a substantial decrease in specific capacity.

Two possibilities exist for sand production in this well. First, a thin lens of fine grained material may exist in an otherwise medium to coarse grained formation. Alternately, the entire production zone may be fine grained material. If the first possibility is the real situation, then it may be possible to fix the sand production by redevelopment of the existing screen. In this type of scenario, redevelopment can allow coarse material to move between the fine lens and the screen, and thereby control sand production. Alternately, if the entire formation is finer than the existing screen can control, then the screen must be removed and replaced with an appropriately sized screen. If the well needs a different screen installed, I recommend that a tail pipe, at least five feet long be installed. The tail pipe serves as a collection reservoir for any subsequent sand production.

A redevelopment scheme that addresses both possibilities is presented. These are general

**UNCLASSIFIED**  
JAN 31 1996

# Specific Capacity

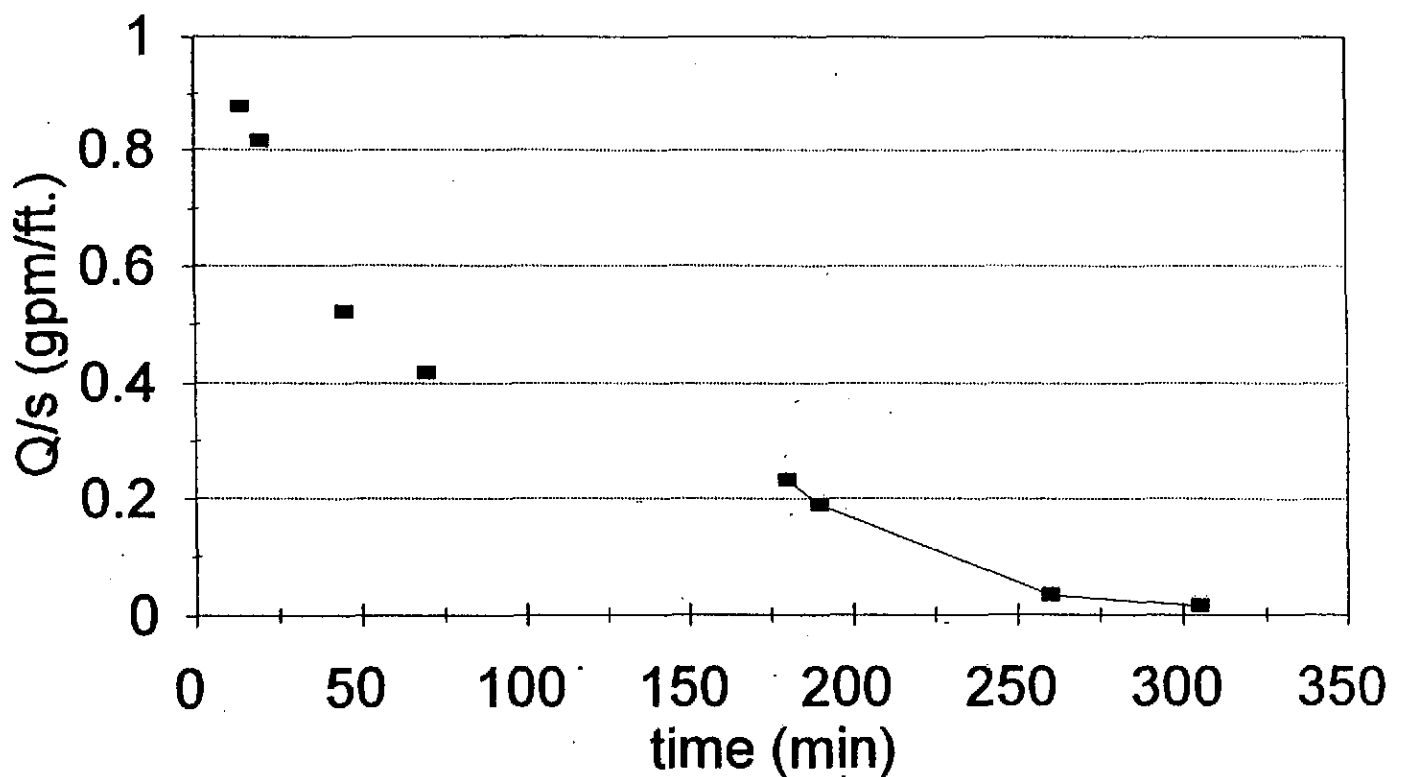


FIGURE 4. Specific capacity of pumping well.

MEP-202111-11

JAN 31 1996

suggestions based on professional experience, and guidance presented in chapters 12-15 of Groundwater and Wells (Driscoll, 1986) published by the manufacturer of Johnson well screens. Specific decisions will be required based on results in the field; thus, a hydrogeologist or other person familiar with well design and rehabilitation should be involved with the actual field work.

Mobilize either a cable tool or air rotary drilling rig that is capable of performing all required functions. Bail or blow fill out of the well. Collect a sample of this material, and conduct a sieve analysis of it (Driscoll Ch.12). The material should all be less than 0.020 inch material, based on 20 slot screen having been installed. The sieve analysis will provide information on how fine the material is that is coming into the well. If material substantially larger than 0.020 inch is in the well, then the integrity of the casing or screen is suspect. If the results of sediment removal and sieve analysis suggest that it may be possible to control sand production by redevelopment, then proceed with careful redevelopment. If it appears that redevelopment will not be successful, then proceed with removing the screen, and reconstructing the well.

Redevelopment of the well should use either surge blocks and bailing or high velocity jetting, as described in Driscoll chapter 15. High velocity jetting generally yields slightly higher specific capacity than does the surge block method. Note that high velocity jetting uses a tool on the end of drill pipe that forces water or air horizontally into the formation. This is much more effective than simply blowing the well using open ended drill pipe. In either case, proceed with caution. Sand production above either type of tool can result in sand accumulating on top of the tool and locking it in the hole.

Reconstruction of the well is necessary if redevelopment is not successful. Reconstruction entails removal of existing well screen, advancement of blank casing to a depth approximately 5 feet deeper than originally drilled (unless bedrock is encountered), sampling of sediments, sieve analysis and determination of required screen slot size, and reconstruction of the well, with smaller slot screen and a five foot long tail pipe.

JAN 31 1996

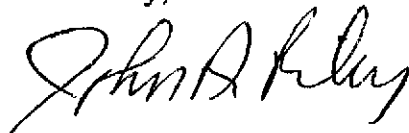
Removal of the well screen can be accomplished by using a sand lock technique described in Driscoll chapter 14. Briefly, burlap bags are attached to the end of drill pipe and lowered into the screen assembly. Then clean sand is poured in on top of them, and when raised in the screen, the sand causes the assembly to lock with the screen and pull it out. I was involved on a project in Spokane in which a 16 inch telescoping screen assembly 35 feet long was removed successfully. On that project, a weld in the blank casing broke during casing pullback, and a new well was drilled nearby, using the screen assembly pulled from the first well.

After removing the screen, redrill to a depth of five feet greater than the original well, and sample every five feet or formation change according to normal procedures. Conduct sieve analyses on samples taken during redrilling, and design determine a slot size that retains 50 percent of the material.

Construct a screen assembly that consists of a five foot long tail pipe, 10 foot long screen, and a packer. Install the screen assembly and redevelop as described above. Conduct required pumping tests.

If you have any questions or comments concerning this, please contact me at 208-773-5223, phone and FAX.

Sincerely,



John A. Riley, Ph.D  
Hydrogeologist

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JAN 31 1996

# APPENDIX

JAN 31 1996

AQUIFER TEST DATA  
Sunset Bay

COUNTY, STATE Bonner, ID  
LOCATION 56N. 2W. Sec.6  
DATE 01/20/95  
PUMPED WELL Well #1  
OBSERVATION WELL Fields Cobb  
STATIC WATER LEVEL 3.49  
AVERAGE Q 80  
RADIUS (to obs well) 800

| DATE     | HOUR  | t<br>(min) | t'<br>(min) | t/t' | Sunset<br>DTW<br>(feet) | s<br>(feet) | Cobb<br>DTW<br>(feet) | Q<br>(gpm) |
|----------|-------|------------|-------------|------|-------------------------|-------------|-----------------------|------------|
|          | 08:10 | -50        |             |      |                         |             | 16.06                 |            |
|          | 08:15 | -45        |             |      |                         |             | 15.21                 |            |
|          | 09:23 | -7         |             |      | 4.55                    | 1.06        |                       |            |
|          | 09:26 | -4         |             |      | 4.00                    | 0.51        |                       |            |
|          | 09:27 | -3         |             |      |                         |             | 13.77                 |            |
|          | 09:28 | -2         |             |      | 3.55                    | 0.06        | 13.77                 |            |
|          | 09:30 | 0          |             |      |                         |             | 13.77                 |            |
| 01/20/95 | 09:31 | 1          |             |      | 14.30                   | 10.81       | 13.77                 |            |
|          |       | 2          |             |      | 28.30                   | 24.81       | 13.77                 |            |
|          |       | 3          |             |      | 36.30                   | 32.81       | 13.77                 |            |
|          |       | 14         |             |      | 68.00                   | 64.51       |                       | 56.60      |
|          |       | 16         |             |      | 72.50                   | 69.01       |                       |            |
|          |       | 18         |             |      | 76.10                   | 72.61       |                       |            |
|          | 09:50 | 20         |             |      | 80.00                   | 76.51       |                       | 62.50      |
|          |       | 25         |             |      | 89.95                   | 86.46       | 13.76                 |            |
|          | 10:00 | 30         |             |      | 98.10                   | 94.61       | 13.76                 |            |
|          |       | 35         |             |      | 103.15                  | 99.66       | 13.76                 |            |
|          | 10:10 | 40         |             |      | 108.80                  | 105.31      |                       |            |
|          |       | 45         |             |      | 113.95                  | 110.46      |                       | 57.69      |
|          | 10:20 | 50         |             |      | 118.58                  | 115.09      |                       |            |
|          |       | 55         |             |      | 123.10                  | 119.61      | 13.76                 |            |
|          | 10:30 | 60         |             |      | 126.91                  | 123.42      |                       |            |
|          |       | 70         |             |      | 134.10                  | 130.61      | 13.76                 | 54.55      |
|          |       | 80         |             |      | 140.18                  | 136.69      |                       |            |
|          | 11:00 | 90         |             |      | 145.25                  | 141.76      |                       |            |
|          |       | 100        |             |      | 150.06                  | 146.57      | 13.76                 |            |
|          | 11:30 | 120        |             |      | 158.20                  | 154.71      | 13.76                 |            |
|          |       | 140        |             |      | 165.05                  | 161.56      | 13.75                 |            |
|          |       | 160        |             |      | 171.80                  | 168.31      |                       |            |
|          | 12:30 | 180        |             |      | 174.90                  | 171.41      | 13.75                 | 40.00      |
|          | 12:40 | 190        |             |      | 174.00                  | 170.51      |                       | 32.28      |
|          | 01:50 | 260        |             |      | 174.00                  | 170.51      |                       | 5.77       |
|          | 02:35 | 305        |             |      | 174.00                  | 170.51      |                       | 2.68       |

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JAN 31 1996

| PERMIT<br>NUMBER | OWNER<br>CODE | NAME & ADDRESS                                                                | TWP | RGE | SEC | TRACT | LOT | COUNTY |
|------------------|---------------|-------------------------------------------------------------------------------|-----|-----|-----|-------|-----|--------|
| 96-94-N-0127-000 | O             | BILL BROWN<br>4775 BALDY MOUNTAIN RD<br>SANDPOINT, ID 83856<br>(208) 263-3042 | 56N | 02W | 06  | SW NW |     | BONNER |

## Subdivision Location and Description:

Subdivision Name:

Well Site Address: LAKESHORE DRIVE\_\_SUNSET BAY

City, State: SAGLE, ID

Lot(s):

Block(s):

## Geographic Location:

Accuracy Code:

Lat: : : N

Long: : : W

Proposed Use of Well: Domestic Proposed Casing Diameter: 6 In.

Proposed Depth: 200 Ft.

Anticipated Bottom Hole Temperature: 85F or Less

## Well Use Comments:

Driller License No: 0235

Firm Name: BOB PITTS &amp; SONS WELL DRILLING INC

Official: DALE L PITTS

Permit Status: Permit

Verbal Issue Date: 05/20/1994

Date Received: 06/01/1994

Date Approved: 06/01/1994

Proposed Start Date: 05/20/1994

Extension Date:

Extension Expiration:

Receipt No.

N007717

Receipt Date

06/01/1994

NOT ON FILE

NOT ON FILE

NOT ON FILE

NOT ON FILE

Fee

\$ 70.00

## Specific Conditions:

Permit Remarks: VERBAL GIVEN BY LORETTA.

Conditions of Approval: This drilling permit is valid for two (2) months from the approval date for the start of construction and is valid for one (1) year from the approval date for completion of the well unless an extension has been granted.

This permit does not constitute an approval of the District Health Department or the Idaho Department of Health and Welfare which may be required prior to construction of this well. The local Health Department should be contacted for septic tank/drainfield locations. Domestic wells must not be drilled closer than 100' from any drainfield and 50' from any septic tank.

The well shall be constructed by a driller currently licensed in the state of Idaho who must maintain a copy of the drilling permit at the drilling site.

Approval of this drilling permit does not authorize trespass on the land of another party.

This permit does not constitute other local, county, state or federal approvals which may be required for construction of a well.

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=====

WELL DRILLING PERMIT NUMBER INDEX: Permit No. 96-94-N-0127-000 (cont'd)

Conditions of Approval: This drilling permit does not represent a right to divert and use the water of the State of Idaho.

If the bottom hole temperature of 85 Degrees F (29.44 oC) or greater is encountered, well construction shall cease and the well driller and the well owner shall contact the Department immediately.

- - - - - WELL DRILLER'S LOG REPORT - - - - -

Drilling Permit No: 96-94-N-0127-000

Water Right No:

Injection Permit No:

Nature of Work:

Construction Method: AIR ROTARY

Number of Monitor Wells:

Casing Diameter: 6 In.  
Depth of Casing: 180 Ft.  
Total Depth: 190 Ft.  
Screen Installed? Yes

Static Water Level: 99999 Ft.  
Temperature: F.  
Production Rate: 70.00 GPM

Actual Start Date: 05/21/1994  
Well Finish Date: 06/03/1994  
Log Received Date: 07/07/1994  
Certification Date: 06/06/1994  
Field Inspection Date:

Inspector:

Violation Flag:

Well Log Remarks: ARTESIAN WELL

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STATE OF IDAHO  
DEPARTMENT OF WATER RESOURCESUSE TYPEWRITER OR  
BALLPOINT PEN

## WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources  
within 30 days after the completion or abandonment of the well.

## WELL OWNER

Name Allen Fulmer  
Address 1 World Trade Center Suite 2150  
Long Beach  
Drilling Permit No. 96-93-N-159-000  
Water Right Permit No. \_\_\_\_\_

## NATURE OF WORK

- ☒ New well ☐ Deepened ☐ Replacement  
☐ Well diameter increase ☐ Modification  
☐ Abandoned (describe abandonment or modification procedures  
such as liners, screen, materials, plug depths, etc. in lithologic  
log, section 9.)

## PROPOSED USE

- ☒ Domestic ☐ Irrigation ☐ Monitor  
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection  
☐ Other \_\_\_\_\_ (specify type)

## METHOD DRILLED

- ☒ Rotary ☒ Air ☐ Auger ☐ Reverse rotary  
☐ Cable ☐ Mud ☐ Other \_\_\_\_\_  
(backhoe, hydraulic, etc.)

## WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other \_\_\_\_\_  
Thickness Diameter From To  
6.25 inches 6 inches + 2 feet 134 feet\_\_\_\_\_ inches \_\_\_\_\_ inches \_\_\_\_\_ feet \_\_\_\_\_ feet  
\_\_\_\_\_ inches \_\_\_\_\_ inches \_\_\_\_\_ feet \_\_\_\_\_ feetWas casing drive shoe used? ☒ Yes ☐ NoWas a packer or seal used? ☐ Yes ☒ NoPerforated? ☐ Yes ☒ NoHow perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun

Size of perforation? \_\_\_\_\_ inches by \_\_\_\_\_ inches

Number From To

\_\_\_\_\_ perforations \_\_\_\_\_ feet \_\_\_\_\_ feet

\_\_\_\_\_ perforations \_\_\_\_\_ feet \_\_\_\_\_ feet

\_\_\_\_\_ perforations \_\_\_\_\_ feet \_\_\_\_\_ feet

Well screen installed? ☐ Yes ☒ No

Manufacturer \_\_\_\_\_ Type \_\_\_\_\_

Top Packer or Headpipe \_\_\_\_\_

Bottom of Tailpipe \_\_\_\_\_

Diameter \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ feet to \_\_\_\_\_ feet

Diameter \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ feet to \_\_\_\_\_ feet

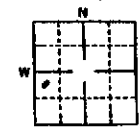
Gravel packed? ☐ Yes ☐ No ☐ Size of gravel \_\_\_\_\_

Placed from \_\_\_\_\_ feet to \_\_\_\_\_ feet

Surface seal depth 40 Material used in seal: ☐ Cement grout☒ Bentonite ☐ Puddling clay ☐ \_\_\_\_\_Sealing procedure used: ☐ Slurry pit☐ Temp. surface casing ☒ Overbore to seal depthMethod of joining casing: ☐ Threaded ☒ Welded☐ Solvent Weld ☐ Cemented between strataDescribe access port N/A

## 6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name \_\_\_\_\_

Lot No. \_\_\_\_\_ Block No. \_\_\_\_\_

County Bonner

Address of Well Site \_\_\_\_\_

(give at least name of road)

NW 1/4 SW 1/4 Sec. 6 T. 56N N ☒ or S ☐  
R. 2 E ☐ or W ☒

## 7. WATER LEVEL

Static water level 100 feet below land surface.  
Flowing? ☐ Yes ☒ No G.P.M. flow \_\_\_\_\_  
Artesian closed-in pressure \_\_\_\_\_ p.s.i.  
Controlled by: ☐ Valve ☐ Cap ☐ Plug  
Temperature \_\_\_\_\_ °F. Quality \_\_\_\_\_  
Describe artesian or temperature zones below.

## 8. WELL TEST DATA

☐ Pump ☐ Bailor ☒ Air ☐ Other \_\_\_\_\_

Discharge G.P.M. Pumping Level Hours Pumped

60 GPM \_\_\_\_\_ \_\_\_\_\_

## 9. LITHOLOGIC LOG

| Bore<br>Diam. | Depth      |            | Material                       | Water                               |                                     |
|---------------|------------|------------|--------------------------------|-------------------------------------|-------------------------------------|
|               | From       | To         |                                | Yes                                 | No                                  |
| <u>8</u>      | <u>0</u>   | <u>35</u>  | <u>OVERBURDEN</u>              |                                     | <input checked="" type="checkbox"/> |
| <u>8</u>      | <u>35</u>  | <u>130</u> | <u>Decomposed Granite</u>      |                                     | <input checked="" type="checkbox"/> |
| <u>8</u>      | <u>130</u> | <u>134</u> | <u>GRANITE</u>                 |                                     | <input checked="" type="checkbox"/> |
| <u>6</u>      | <u>134</u> | <u>265</u> | <u>GRANITE</u>                 |                                     | <input checked="" type="checkbox"/> |
| <u>6</u>      | <u>265</u> | <u>267</u> | <u>Fri Granite (1.5 GPM)</u>   | <input checked="" type="checkbox"/> |                                     |
| <u>6</u>      | <u>267</u> | <u>340</u> | <u>GRANITE</u>                 |                                     | <input checked="" type="checkbox"/> |
| <u>6</u>      | <u>340</u> | <u>342</u> | <u>Fri Granite with Quartz</u> | <input checked="" type="checkbox"/> |                                     |
| <u>6</u>      | <u>342</u> | <u>351</u> | <u>GRANITE</u>                 |                                     | <input checked="" type="checkbox"/> |
| <u>6</u>      | <u>351</u> | <u>353</u> | <u>Fri Granite</u>             | <input checked="" type="checkbox"/> |                                     |
| <u>6</u>      | <u>353</u> | <u>365</u> | <u>GRANITE</u>                 |                                     | <input checked="" type="checkbox"/> |

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AUG 05 1993

NORTHERN REGION  
IDWR

JAN 31 1996

## 10.

Work started 3-28-93 finished 3-30-93

## 11. DRILLER'S CERTIFICATION

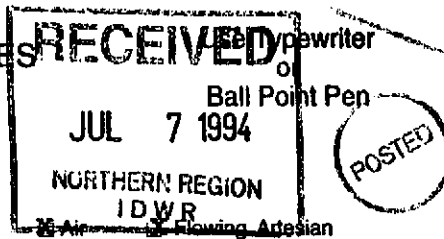
I/We certify that all minimum well construction standards were  
complied with at the time the rig was removed.Firm Name Hester Drilling Firm No. 528Address Box 142 P.O. Box 142 Date 7-30-93Signed by Drilling Supervisor Charles Hester

and

(Operator) TDK  
(If different than the Drilling Supervisor)



# IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT



1. DRILLING PERMIT NO. 96 - 94 - N - 127 - 000

Other IDWR No. \_\_\_\_\_

2. OWNER: Louis Vermeer

Name Bill Brown "Sunset Bay"

Address 102 S. 4th Ave.

City Sandpoint State ID Zip 83864

## 3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.

|   |   |  |  |  |  |
|---|---|--|--|--|--|
| N |   |  |  |  |  |
|   | X |  |  |  |  |
| W |   |  |  |  |  |
|   |   |  |  |  |  |
| S |   |  |  |  |  |

T. 56 North ☒ or South ☐  
 E. 2 East ☐ or West ☒  
 Sec. 6 1/4 SW 1/4 NW 1/4  
 Gov't Lot \_\_\_\_\_ County Bonner

## 10. WELL TESTS:

| <input type="checkbox"/> Pump | <input type="checkbox"/> Bailor | <input type="checkbox"/> Air | <input type="checkbox"/> Flowing Artesian |
|-------------------------------|---------------------------------|------------------------------|-------------------------------------------|
| Yield gal./min.               | Drawdown                        | Pumping Depth                | Time                                      |
| 60 GPM +                      | 190'                            | 190                          | 1 Hr.                                     |
| 10 GPM Artesian               |                                 |                              |                                           |

Temperature of water --- Was a water analysis done? Yes ☐ No ☒

By whom? \_\_\_\_\_

Water Quality (odor, etc.) Clear no odor

Bottom Hole Temperature -----

## 11. STATIC WATER LEVEL:

0 ft. below surface Depth artesian flow found 180-190

Artesian pressure 1.5 lb. Describe access port well cap

Describe Controlling Devices: Gate valve

## 12. LITHOLOGIC LOG: (Describe repairs or abandonment)

| Bore Dia. | From | To  | Remarks: Lithology, Water Quality & Temperature | GPM | SWL |
|-----------|------|-----|-------------------------------------------------|-----|-----|
| 8         | 0    | 2   | Backfill                                        |     |     |
|           | 2    | 3   | Topsoil                                         |     |     |
|           | 3    | 20  | Sand Gravel & Boulders                          |     |     |
| 6"        | 20   | 40  | Sand, gravel, & boulders                        |     |     |
|           | 40   | 67  | sand & clay mixed                               |     |     |
|           | 67   | 95  | gravel & boulders                               |     |     |
|           | 95   | 101 | one big boulder                                 |     |     |
|           | 101  | 178 | hard pan clay & gravel                          |     |     |
|           | 178  | 190 | Washed water sand & gravel                      |     |     |

Date: Started 21 May 94 Completed 3 June 94

## 4. PROPOSED USE:

Domestic ☒ Municipal ☐ Monitor ☐ Irrigation ☐  
 Thermal ☐ Injection ☐ Other \_\_\_\_\_

## 5. TYPE OF WORK

☒ New Well ☐ Modify or Repair ☐ Replacement ☐ Abandonment

## 6. DRILL METHOD

☐ Mud Rotary ☒ Air Rotary ☐ Cable ☐ Other \_\_\_\_\_

## 7. SEALING PROCEDURES

| SEAL/FILTER PACK |      |    | AMOUNT          | METHOD   |
|------------------|------|----|-----------------|----------|
| Material         | From | To | Sacks or Pounds |          |
| Dry bentonite    | 0    | 20 | 200#            | overbore |

Was drive shoe seal tested? Y ☐ N ☒ How? \_\_\_\_\_

## 8. CASING/LINER:

| Diameter | From | To  | Gauge | Casting | Liner | Steel                               | Plastic                  | Welded                              | Threaded                 |
|----------|------|-----|-------|---------|-------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| 6"       | +1   | 180 | 250   | X       |       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Final location of shoes 180.5'

Top Packer or Headpipe \_\_\_\_\_ Bottom Tailpipe \_\_\_\_\_

## 9. PERFORATIONS/SCREENS "K" packer - No Tail Pipe

☐ Perforations Method telescope type  
☒ Screens Type Cook Material Stainless Steel

| From | To  | Slot Size | Number | Diameter | Tele/Pipe Size | Casting                  | Liner                    |
|------|-----|-----------|--------|----------|----------------|--------------------------|--------------------------|
| 179' | 190 | 20        |        | 6"       |                | <input type="checkbox"/> | <input type="checkbox"/> |

## 13. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Bob Pitts & Sons Inc. Firm No. 235

Firm Official Bob Pitts Date 6 June 94

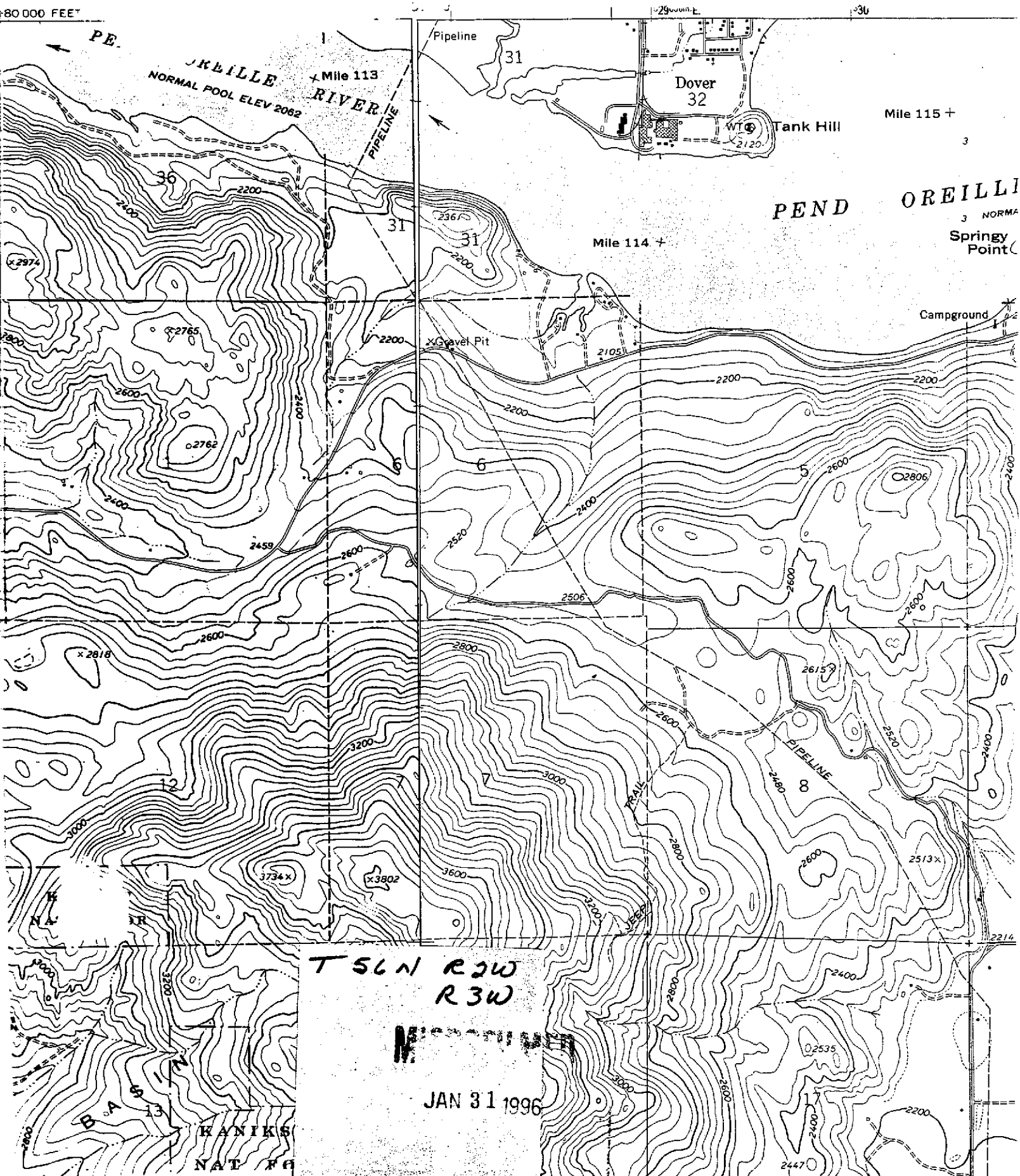
and Supervisor or Operator Mark W. Pitts Date 6 June 94

(Sign once if Firm Official & Operator)

SW NW 6 56N 2W

FORWARD WHITE COPY TO WATER RESOURCES

UNITED STATES  
DEPARTMENT OF THE ARMY



80 000 FEET

PE.

36

2400

2200

2000

1800

1600

1400

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## Pump TEST

Our situation: Developer with existing well, protested application - wells approximately 74'-in apart.

Developer required to do pump test. for 6 hrs at 65 gpm

1-30 day pump test given Capacity  
pump test - guidance of Registered  
geologist  
would permit of required applicant  
to

2 day pump test City of Caldwell  
4-5 protesters -



#1 Paul Kristaline

SHANE , STEVE BAKER

BOB SUETER

ASSESSING

PROFESSION  
GEOLOGIST  
Caldwell  
REG 15786

MICROFILMED

JAN 31 1996

OTHER WELLS IN VICINITY NEED TO BE CONTROLLED.

NOTHING CLOSER THAN  $\frac{1}{4}$  MI.

WELLS SHOULD BE OFF BEFORE HAND  
TREND DATA PRIOR TO PUMP

1/16 HRS.

MAXIMUM RATE FOR 8 HRS.

STEP TEST - THROTTLE 10 GPM - MEAS 20 min  
20 GPM - MEAS 20 min  
40 GPM 20 min

SEE BREAK IN SLOPE

SO

FULL

ARYTH

PLOT. Q VS. DRAWDOWN ON LOG RHYTHMIC  
TIME

MONITOR RECOVERY - 2-3 HRS CRITICAL  
1 MIN. / FIRST 10 MIN. / 5 MIN / 2 MIN.

CONDITION OF APPROVAL

PROTESTANT AGREED TO ~~1/4~~ 1/4 INCH DRAW

APON APPROVAL --

JAN 31 1996

FLOATING FEATHER

REQUIRED CONSULTING  
ENGINEER

CONFERENCE "TOLD THEM THEY HAD TO  
PROVIDE DATA" OBSERVER

2 ON SITE MEETING S  
#1 DISCUSS TEST WHAT WAY / #2 START TEST

# RESULTS REVIEW

FLOATING FEATHER ON ASHG

[63-11413]

6-800' Below Rd. }  
2-300' Above Rd. }  
24 → }  
JOHN RILEY }

OTHER WELLS IN AREA →

1 WELL ON SAME SIDE ~~ARE~~

HYDROLOGIST M FE  
265-1513

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## WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Administration within 30 days after the completion or abandonment of the well.

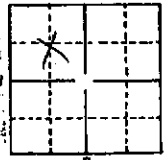
RECEIVE

JAN 1 1975

| <b>1. WELL OWNER</b><br>Name <u>William Bock</u><br>Address <u>Sand Point, Id.</u><br>Owner's Permit No. <u>96-74-N-11</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       | <b>7. WATER LEVEL</b><br>Static water level <u>270</u> feet below land surface<br>Flowing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No G.P.M. flow _____<br>Temperature <u>60.0</u> ° F. Quality <u>Good</u><br>Artesian closed-in pressure _____ p.s.i.<br>Controlled by <input type="checkbox"/> Valve <input type="checkbox"/> Cap <input type="checkbox"/> Plug                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                 |            |       |  |          |       |  |      |    |     |    |                                                                 |   |    |          |  |   |  |    |    |               |  |   |  |    |    |                    |  |   |  |    |  |          |  |  |  |    |     |                    |  |   |   |     |     |         |   |  |  |  |  |                                 |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|------------|-------|--|----------|-------|--|------|----|-----|----|-----------------------------------------------------------------|---|----|----------|--|---|--|----|----|---------------|--|---|--|----|----|--------------------|--|---|--|----|--|----------|--|--|--|----|-----|--------------------|--|---|---|-----|-----|---------|---|--|--|--|--|---------------------------------|--|--|
| <b>2. NATURE OF WORK</b><br><input checked="" type="checkbox"/> New well <input type="checkbox"/> Deepened <input type="checkbox"/> Replacement<br><input type="checkbox"/> Abandoned (describe method of abandoning)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       | <b>8. WELL TEST DATA</b><br><input type="checkbox"/> Pump <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Other <u>air</u><br>Discharge G.P.M. <u>5</u> Draw Down _____ Hours Pumped _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                 |            |       |  |          |       |  |      |    |     |    |                                                                 |   |    |          |  |   |  |    |    |               |  |   |  |    |    |                    |  |   |  |    |  |          |  |  |  |    |     |                    |  |   |   |     |     |         |   |  |  |  |  |                                 |  |  |
| <b>3. PROPOSED USE</b><br><input checked="" type="checkbox"/> Domestic <input type="checkbox"/> Irrigation <input type="checkbox"/> Test <input type="checkbox"/> Other (specify type) _____<br><input type="checkbox"/> Municipal <input type="checkbox"/> Industrial <input type="checkbox"/> Stock <input type="checkbox"/> Waste Disposal or Injection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       | <b>9. LITHOLOGIC LOG</b> <table border="1"><thead><tr><th rowspan="2">Hole Diam.</th><th colspan="2">Depth</th><th rowspan="2">Material</th><th colspan="2">Water</th></tr><tr><th>From</th><th>To</th><th>Yes</th><th>No</th></tr></thead><tbody><tr><td>8</td><td>0</td><td>11</td><td>Br. clay</td><td></td><td>X</td></tr><tr><td></td><td>11</td><td>16</td><td>Boulders C.T.</td><td></td><td>X</td></tr><tr><td></td><td>16</td><td>43</td><td>Br. clay + Granite</td><td></td><td>X</td></tr><tr><td></td><td>43</td><td></td><td>Boulders</td><td></td><td></td></tr><tr><td></td><td>43</td><td>135</td><td>Decomposed Granite</td><td></td><td>X</td></tr><tr><td>6</td><td>135</td><td>500</td><td>Granite</td><td>X</td><td></td></tr><tr><td></td><td></td><td></td><td>Picked up water between 305-370</td><td></td><td></td></tr></tbody></table> |                                 | Hole Diam. | Depth |  | Material | Water |  | From | To | Yes | No | 8                                                               | 0 | 11 | Br. clay |  | X |  | 11 | 16 | Boulders C.T. |  | X |  | 16 | 43 | Br. clay + Granite |  | X |  | 43 |  | Boulders |  |  |  | 43 | 135 | Decomposed Granite |  | X | 6 | 135 | 500 | Granite | X |  |  |  |  | Picked up water between 305-370 |  |  |
| Hole Diam.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Depth |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Material                        |            | Water |  |          |       |  |      |    |     |    |                                                                 |   |    |          |  |   |  |    |    |               |  |   |  |    |    |                    |  |   |  |    |  |          |  |  |  |    |     |                    |  |   |   |     |     |         |   |  |  |  |  |                                 |  |  |
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| 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0     | 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Br. clay                        |            | X     |  |          |       |  |      |    |     |    |                                                                 |   |    |          |  |   |  |    |    |               |  |   |  |    |    |                    |  |   |  |    |  |          |  |  |  |    |     |                    |  |   |   |     |     |         |   |  |  |  |  |                                 |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 11    | 16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Boulders C.T.                   |            | X     |  |          |       |  |      |    |     |    |                                                                 |   |    |          |  |   |  |    |    |               |  |   |  |    |    |                    |  |   |  |    |  |          |  |  |  |    |     |                    |  |   |   |     |     |         |   |  |  |  |  |                                 |  |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 43    | 135                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Decomposed Granite              |            | X     |  |          |       |  |      |    |     |    |                                                                 |   |    |          |  |   |  |    |    |               |  |   |  |    |    |                    |  |   |  |    |  |          |  |  |  |    |     |                    |  |   |   |     |     |         |   |  |  |  |  |                                 |  |  |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 135   | 500                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Granite                         | X          |       |  |          |       |  |      |    |     |    |                                                                 |   |    |          |  |   |  |    |    |               |  |   |  |    |    |                    |  |   |  |    |  |          |  |  |  |    |     |                    |  |   |   |     |     |         |   |  |  |  |  |                                 |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Picked up water between 305-370 |            |       |  |          |       |  |      |    |     |    |                                                                 |   |    |          |  |   |  |    |    |               |  |   |  |    |    |                    |  |   |  |    |  |          |  |  |  |    |     |                    |  |   |   |     |     |         |   |  |  |  |  |                                 |  |  |
| <b>4. METHOD DRILLED</b><br><input type="checkbox"/> Cable <input checked="" type="checkbox"/> Rotary <input type="checkbox"/> Dug <input type="checkbox"/> Other                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                 |            |       |  |          |       |  |      |    |     |    |                                                                 |   |    |          |  |   |  |    |    |               |  |   |  |    |    |                    |  |   |  |    |  |          |  |  |  |    |     |                    |  |   |   |     |     |         |   |  |  |  |  |                                 |  |  |
| <b>5. WELL CONSTRUCTION</b><br>Diameter of hole <u>8</u> inches Total depth <u>502</u> feet<br>Casing schedule: <input type="checkbox"/> Steel <input type="checkbox"/> Concrete<br>Thickness <u>2.50</u> inches Diameter <u>6</u> inches From <u>140</u> feet<br><u>PVC</u> inches <u>4</u> inches <u>115</u> feet <u>500</u> feet<br>_____ inches _____ inches _____ feet _____ feet<br>_____ inches _____ inches _____ feet _____ feet<br>Was a packer or seal used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Perforated? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>How perforated? <input type="checkbox"/> Factory <input type="checkbox"/> Knife <input type="checkbox"/> Torch<br>Size of perforation _____ inches by _____ inches<br>Number _____ From _____ To _____<br>_____ perforations _____ feet _____ feet<br>_____ perforations _____ feet _____ feet<br>_____ perforations _____ feet _____ feet<br>Well screen installed? <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Manufacturer's name <u>ERTOR</u><br>Type <u>PVC</u> Model No. _____<br>Diameter <u>7</u> Slot size <u>1/16</u> Set from <u>475</u> feet to <u>480</u> feet<br>Diameter _____ Slot size _____ Set from _____ feet to _____ feet<br>Gravel packed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Size of gravel _____<br>Placed from _____ feet to _____ feet<br>Surface seal depth <u>20</u> Material used in seal <input type="checkbox"/> Cement grout<br><input checked="" type="checkbox"/> Pudding clay <input checked="" type="checkbox"/> Well cuttings<br>Sealing procedure used <input type="checkbox"/> Sherry pit <input type="checkbox"/> Temporary surface casing<br><input checked="" type="checkbox"/> Overbore to seal depth |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                 |            |       |  |          |       |  |      |    |     |    |                                                                 |   |    |          |  |   |  |    |    |               |  |   |  |    |    |                    |  |   |  |    |  |          |  |  |  |    |     |                    |  |   |   |     |     |         |   |  |  |  |  |                                 |  |  |
| <b>6. LOCATION OF WELL</b><br>Sketch map location must agree with written location.<br><u>96</u><br><table border="1"><tr><td>N</td><td></td><td></td></tr><tr><td>W</td><td></td><td>E</td></tr><tr><td></td><td></td><td></td></tr><tr><td>S</td><td></td><td></td></tr></table><br>Subdivision Name _____<br>Lot No. _____ Block No. _____<br>Tract <u>3-B</u><br>County <u>BONNER</u><br>NW <u>1</u> NW <u>6</u> Sec. <u>6</u> T. <u>56</u> N. S. R. <u>2</u> NW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       | N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                 |            | W     |  | E        |       |  |      | S  |     |    | <b>10.</b><br>Work started <u>6/1/74</u> finished <u>6/4/74</u> |   |    |          |  |   |  |    |    |               |  |   |  |    |    |                    |  |   |  |    |  |          |  |  |  |    |     |                    |  |   |   |     |     |         |   |  |  |  |  |                                 |  |  |
| N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                 |            |       |  |          |       |  |      |    |     |    |                                                                 |   |    |          |  |   |  |    |    |               |  |   |  |    |    |                    |  |   |  |    |  |          |  |  |  |    |     |                    |  |   |   |     |     |         |   |  |  |  |  |                                 |  |  |
| W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       | E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                 |            |       |  |          |       |  |      |    |     |    |                                                                 |   |    |          |  |   |  |    |    |               |  |   |  |    |    |                    |  |   |  |    |  |          |  |  |  |    |     |                    |  |   |   |     |     |         |   |  |  |  |  |                                 |  |  |
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| S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                 |            |       |  |          |       |  |      |    |     |    |                                                                 |   |    |          |  |   |  |    |    |               |  |   |  |    |    |                    |  |   |  |    |  |          |  |  |  |    |     |                    |  |   |   |     |     |         |   |  |  |  |  |                                 |  |  |
| <b>11. DRILLERS CERTIFICATION</b><br>Firm Name <u>Apex Drill &amp; Dev. Inc.</u> Firm No. <u>143</u><br>Address <u>Box 1002 E. 2nd St.</u> Date <u>6/5/74</u><br>Signed by (Firm Official) <u>Richard J. Brown Pres.</u><br>and<br>(Operator) <u>David H. Brown</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                 |            |       |  |          |       |  |      |    |     |    |                                                                 |   |    |          |  |   |  |    |    |               |  |   |  |    |    |                    |  |   |  |    |  |          |  |  |  |    |     |                    |  |   |   |     |     |         |   |  |  |  |  |                                 |  |  |

## WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

| <b>1. WELL OWNER</b><br>Name <u>Jim Christy</u><br>Address <u>Rt 1 Box 156A</u><br>Owner's Permit No. <u>Sagle Idaho 8386</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       | <b>7. WATER LEVEL</b><br>Static water level <u>20</u> feet below land surface<br>Flowing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No G.P.M. flow <u>4</u><br>Temperature _____ ° F. Quality _____<br>Artesian closed-in pressure _____ p.s.i.<br>Controlled by <input type="checkbox"/> Valve <input type="checkbox"/> Cap <input type="checkbox"/> Plug                                                                                                                                                                                                                                                                                                                  |                      |            |       |  |          |       |  |      |    |     |    |   |   |   |      |  |  |   |   |    |               |  |  |   |    |    |               |  |  |   |    |    |                      |  |  |   |    |     |              |  |  |
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| <b>2. NATURE OF WORK</b> <u>96-80-N-43</u><br><input checked="" type="checkbox"/> New well <input type="checkbox"/> Deepened <input type="checkbox"/> Replacement<br><input type="checkbox"/> Abandoned (describe method of abandoning)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       | <b>8. WELL TEST DATA</b><br><input type="checkbox"/> Pump <input type="checkbox"/> Bailor <input type="checkbox"/> Other <u>air lift</u><br>Discharge G.P.M. <u>4</u> Draw Down _____ Hours Pumped <u>2</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                      |            |       |  |          |       |  |      |    |     |    |   |   |   |      |  |  |   |   |    |               |  |  |   |    |    |               |  |  |   |    |    |                      |  |  |   |    |     |              |  |  |
| <b>3. PROPOSED USE</b><br><input checked="" type="checkbox"/> Domestic <input type="checkbox"/> Irrigation <input type="checkbox"/> Test <input type="checkbox"/> Other (specify type)<br><input type="checkbox"/> Municipal <input type="checkbox"/> Industrial <input type="checkbox"/> Stock <input type="checkbox"/> Waste Disposal or Injection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       | <b>9. LITHOLOGIC LOG</b> <table border="1"><thead><tr><th rowspan="2">Hole Diam.</th><th colspan="2">Depth</th><th rowspan="2">Material</th><th colspan="2">Water</th></tr><tr><th>From</th><th>To</th><th>Yes</th><th>No</th></tr></thead><tbody><tr><td>6</td><td>0</td><td>6</td><td>clay</td><td></td><td></td></tr><tr><td>6</td><td>6</td><td>20</td><td>clay &amp; gravel</td><td></td><td></td></tr><tr><td>6</td><td>20</td><td>40</td><td>clay &amp; gravel</td><td></td><td></td></tr><tr><td>6</td><td>40</td><td>80</td><td>broken rock &amp; gravel</td><td></td><td></td></tr><tr><td>6</td><td>80</td><td>105</td><td>rock &amp; water</td><td></td><td></td></tr></tbody></table> |                      | Hole Diam. | Depth |  | Material | Water |  | From | To | Yes | No | 6 | 0 | 6 | clay |  |  | 6 | 6 | 20 | clay & gravel |  |  | 6 | 20 | 40 | clay & gravel |  |  | 6 | 40 | 80 | broken rock & gravel |  |  | 6 | 80 | 105 | rock & water |  |  |
| Hole Diam.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Depth |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Material             |            | Water |  |          |       |  |      |    |     |    |   |   |   |      |  |  |   |   |    |               |  |  |   |    |    |               |  |  |   |    |    |                      |  |  |   |    |     |              |  |  |
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| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0     | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | clay                 |            |       |  |          |       |  |      |    |     |    |   |   |   |      |  |  |   |   |    |               |  |  |   |    |    |               |  |  |   |    |    |                      |  |  |   |    |     |              |  |  |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 6     | 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | clay & gravel        |            |       |  |          |       |  |      |    |     |    |   |   |   |      |  |  |   |   |    |               |  |  |   |    |    |               |  |  |   |    |    |                      |  |  |   |    |     |              |  |  |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 20    | 40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | clay & gravel        |            |       |  |          |       |  |      |    |     |    |   |   |   |      |  |  |   |   |    |               |  |  |   |    |    |               |  |  |   |    |    |                      |  |  |   |    |     |              |  |  |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 40    | 80                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | broken rock & gravel |            |       |  |          |       |  |      |    |     |    |   |   |   |      |  |  |   |   |    |               |  |  |   |    |    |               |  |  |   |    |    |                      |  |  |   |    |     |              |  |  |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 80    | 105                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | rock & water         |            |       |  |          |       |  |      |    |     |    |   |   |   |      |  |  |   |   |    |               |  |  |   |    |    |               |  |  |   |    |    |                      |  |  |   |    |     |              |  |  |
| <b>4. METHOD DRILLED</b><br><input type="checkbox"/> Cable <input type="checkbox"/> Rotary <input type="checkbox"/> Dug <input checked="" type="checkbox"/> Other <u>air Rotary</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                      |            |       |  |          |       |  |      |    |     |    |   |   |   |      |  |  |   |   |    |               |  |  |   |    |    |               |  |  |   |    |    |                      |  |  |   |    |     |              |  |  |
| <b>5. WELL CONSTRUCTION</b><br>Diameter of hole <u>6</u> inches Total depth <u>73</u> feet<br>Casing schedule: <input checked="" type="checkbox"/> Steel <input type="checkbox"/> Concrete<br>Thickness <u>1/2</u> inches Diameter <u>6</u> inches From <u>1</u> feet To <u>73</u> feet<br>_____ inches _____ inches _____ feet _____ feet<br>_____ inches _____ inches _____ feet _____ feet<br>_____ inches _____ inches _____ feet _____ feet<br>_____ inches _____ inches _____ feet _____ feet<br>Was casing drive shoe used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Was a packer or seal used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Perforated? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>How perforated? <input type="checkbox"/> Factory <input type="checkbox"/> Knife <input checked="" type="checkbox"/> Torch<br>Size of perforation <u>1/4</u> inches by <u>1/4</u> inches<br>Number _____ From _____ To _____<br><u>34</u> perforations <u>65</u> feet <u>73</u> feet<br>_____ perforations _____ feet _____ feet<br>_____ perforations _____ feet _____ feet<br>Well screen installed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Manufacturer's name _____<br>Type _____ Model No. _____<br>Diameter _____ Slot size _____ Set from _____ feet to _____ feet<br>Diameter _____ Slot size _____ Set from _____ feet to _____ feet<br>Gravel packed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Size of gravel _____<br>Placed from _____ feet to _____ feet<br>Surface seal depth <u>10</u> Material used in seal <input type="checkbox"/> Cement grout<br><input type="checkbox"/> Puddling clay <input checked="" type="checkbox"/> Well cuttings<br>Sealing procedure used <input type="checkbox"/> Slurry pit <input type="checkbox"/> Temporary surface casing<br><input type="checkbox"/> Overbore to seal depth |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                      |            |       |  |          |       |  |      |    |     |    |   |   |   |      |  |  |   |   |    |               |  |  |   |    |    |               |  |  |   |    |    |                      |  |  |   |    |     |              |  |  |
| <b>6. LOCATION OF WELL</b><br>Sketch map location must agree with written location.<br><br>Subdivision Name _____<br>Lot No. _____ Block No. _____<br>County <u>Bonner</u> No. _____<br>1/4 N 1/4 Sec. <u>6</u> T. <u>56</u> N. R. <u>3</u> W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       | <b>10.</b><br>Work started <u>7-27-80</u> finished <u>7-30-80</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                      |            |       |  |          |       |  |      |    |     |    |   |   |   |      |  |  |   |   |    |               |  |  |   |    |    |               |  |  |   |    |    |                      |  |  |   |    |     |              |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |       | <b>11. DRILLERS CERTIFICATION</b><br>Firm Name <u>Paul Brickley</u> Firm No. <u>348</u><br>Address <u>Rt 1 Box 508 Elly</u> Date <u>8-20-80</u><br>Signed by (Firm Official) <u>Paul Brickley</u><br>and <u>Paul Brickley</u><br>(Operator)                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                      |            |       |  |          |       |  |      |    |     |    |   |   |   |      |  |  |   |   |    |               |  |  |   |    |    |               |  |  |   |    |    |                      |  |  |   |    |     |              |  |  |

## WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

SEP 18 1989

[illegible]

## WELL DRILLER REPORT

**State law requires that this report be filed with the Director, Department of Water Administration within 30 days after the completion or abandonment of the well.**

APR 1 1975

Department of Water Resources  
Northern District Office

[illegible]

**USE ADDITIONAL SHEETS IF NECESSARY**

FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

## WELL DRILLER'S REPORT

**State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.**

[illegible]



✓

[illegible]

USE ADDITIONAL SHEETS IF NECESSARY - FORWARD THE WHITE COPY TO THE DEPARTMENT

## WELL DRILLER REPORT

State law requires that this report be filed with the Director, Department of Water Administration within 30 days after the completion or abandonment of the well.

[illegible]

## WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources  
within 30 days after the completion or abandonment of the well.

## 1. WELL OWNER

Name Mr. M. Pratt  
Address 2nd Point Edge  
Owner's Permit No. 96-85-N-70

## 7. WATER LEVEL

Static water level 183 feet below land surface.  
Flowing? ☐ Yes ☒ No G.P.M. flow \_\_\_\_\_  
Artesian closed-in pressure \_\_\_\_\_ p.s.i.  
Controlled by: ☐ Valve ☐ Cap ☐ Plug  
Temperature \_\_\_\_\_ °F. Quality \_\_\_\_\_

## 2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement  
☐ Abandoned (describe method of abandoning) \_\_\_\_\_

## 8. WELL TEST DATA

☐ Pump ☐ Bailor ☒ Air ☐ Other \_\_\_\_\_

| Discharge G.P.M. | Pumping Level | Hours Pumped |
|------------------|---------------|--------------|
| <u>25</u>        | <u>270</u>    | <u>3</u>     |
|                  |               |              |
|                  |               |              |

## 3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal  
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection  
☐ Other \_\_\_\_\_ (specify type)

## 9. LITHOLOGIC LOG

| Hole Diam. | Depth From | To  | Material                    | Water Yes | No |
|------------|------------|-----|-----------------------------|-----------|----|
| 10         | 0          | 3   | Top Soil                    |           |    |
| 10         | 3          | 19  | Gravel large w/ sand & silt |           |    |
| 10         | 19         | 26  | 2nd coarse                  |           |    |
| 10         | 26         | 34  | Gravel large w/ clay & silt |           |    |
| 10         | 34         | 56  | 2nd fine w/ clay            |           |    |
| 10         | 56         | 88  | Gravel large w/ clay & silt |           |    |
| 10         | 88         | 106 | 2nd coarse w/ clay & silt   |           |    |
| 10         | 106        | 127 | Gravel sand w/ clay & silt  |           |    |
| 10         | 127        | 141 | Shale broken                |           |    |
| 10         | 141        | 159 | Shale hard not broken       |           |    |
| 6          | 159        | 183 | Shale soft                  |           |    |
| 6          | 183        | 187 | Shale hard                  |           |    |
| 6          | 187        | 231 | Shale broken & soft         |           |    |
| 6          | 231        | 249 | Shale hard                  |           |    |
| 6          | 249        | 266 | Shale soft                  |           |    |
| 6          | 266        | 273 | Shale hard                  |           |    |
| 6          | 273        | 296 | Shale soft                  |           |    |
| 6          | 296        | 320 | Shale hard                  |           |    |

## 4. METHOD DRILLED

☒ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary  
☐ Cable ☐ Dug ☐ Other \_\_\_\_\_

## 5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other \_\_\_\_\_

| Thickness         | Diameter        | From            | To                |
|-------------------|-----------------|-----------------|-------------------|
| <u>250</u> inches | <u>6</u> inches | <u>1.6</u> feet | <u>155.6</u> feet |
|                   |                 |                 |                   |
|                   |                 |                 |                   |
|                   |                 |                 |                   |

Was casing drive shoe used? ☒ Yes ☐ NoWas a packer or seal used? ☐ Yes ☒ NoPerforated? ☐ Yes ☒ NoHow perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation \_\_\_\_\_ inches by \_\_\_\_\_ inches

| Number | From | To |
|--------|------|----|
|        |      |    |
|        |      |    |
|        |      |    |

Well screen installed? ☐ Yes ☒ No

Manufacturer's name \_\_\_\_\_

Type \_\_\_\_\_ Model No. \_\_\_\_\_

Diameter \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ feet to \_\_\_\_\_ feet

Diameter \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ feet to \_\_\_\_\_ feet

Gravel packed? ☐ Yes ☐ No ☐ Size of gravel \_\_\_\_\_

Placed from \_\_\_\_\_ feet to \_\_\_\_\_ feet

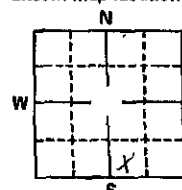
Surface seal depth 40 Material used in seal: ☐ Cement grout☒ Puddling clay ☐ Well cutSealing procedure used: ☐ Slurry pit ☒ Temp. surface casing☐ Overbore to seal depthMethod of joining casing: ☐ Threaded ☒ Welded ☐ Solvent

Weld

☐ Cemented between strataDescribe access port will be on sec. on the pump

## 6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name \_\_\_\_\_

Lot No. \_\_\_\_\_ Block No. \_\_\_\_\_

County BANNERSW 1/4 Sec. 6, T. 56 N., R. 2 W.

## 11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were  
complied with at the time the rig was removed.Firm Name Ed. Halman Drill Firm No. 105Address Cal. S. Jones Rd Date June 3-85Signed by (Firm Official) Ed. Halman

and

(Operator) Ed. Halman

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JUN 17 1985

Department of Water Resources  
Northern District Office

RECEIVED

JUN 25 1985

Department of Water Resources  
JAN 31 1996

MICROFILMED

Form 238-7  
6/93**IDAHO DEPARTMENT OF WATER RESOURCES**  
**WELL DRILLER'S REPORT**

**Use Typewriter  
or  
Ball Point Pen**

1. DRILLING PERMIT NO. 96-93-N-287-000  
Other IDWR No. \_\_\_\_\_

**2. OWNER:**

Name Kevin Kudeen  
Address 224 S. Green Ridge  
City Liberty Lake State WA Zip 99019

**3. LOCATION OF WELL by legal description:**

**Sketch map location must agree with written location.**

N

W

E

S

T. 5756 North ☒ or South ☐

R. 2 East ☐ or West ☒

Sec. 346 1/4 SE 1/4 SE 1/4

Gov't Lot \_\_\_\_\_ County Bonner

10 acres 40 acres 160 acres

Address of Well Site Lake Shore Drive

(Give at least Direction + Distance to Road or Landmark)

Lot No. \_\_\_\_\_ Block No. \_\_\_\_\_ Subd. Name \_\_\_\_\_

**4. PROPOSED USE:**

☒ Domestic    ☐ Municipal    ☐ Monitor    ☐ Irrigation  
☐ Thermal    ☐ Injection    ☐ Other \_\_\_\_\_

## 5. TYPE OF WORK

☒ New Well    ☐ Modify or Repair    ☐ Replacement    ☐ Abandonment

## 6. DRILL METHOD

☐ Mud Rotary ☒ Air Rotary ☐ Cable ☐ Other

## 7. SEALING PROCEDURES

| SEAL/FILTER PACK |      | AMOUNT                        | METHOD |
|------------------|------|-------------------------------|--------|
| Material         | From | To<br>Sacks or Pounds         |        |
| Dry Bentonite    | 0    | <del>700</del> 400 # over box | JAN    |
|                  | 0    | 18                            |        |
|                  |      |                               |        |
|                  |      |                               |        |
|                  |      |                               |        |

Was drive shoe seal tested? Y ☐ N ☒ How?

**8. CASING/LINER:**

| Diameter | From | To  | Gauge | Casting | Liner | Steel                               | Plastic                             | Welded                              | Through                  |
|----------|------|-----|-------|---------|-------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|
| 6"       | +1   | 60  | 250   |         |       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4"       | -10  | 385 | 162   | #       |       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|          |      |     |       |         |       | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> |
|          |      |     |       |         |       | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> |

Final location of shoes 60.5'  
Top Packer or Headpipe \_\_\_\_\_ Bottom Tailpipe \_\_\_\_\_

## 9. PERFORATIONS/SCREENS

☒ Perforations Method skill saw cut  
☐ Screens Type \_\_\_\_\_ Material \_\_\_\_\_

| From | To | Slot Size | Number | Diameter | Tele/Pipe Size | Casting                  | Line                                |
|------|----|-----------|--------|----------|----------------|--------------------------|-------------------------------------|
| 20   | 35 | 7/4"      | —      |          |                | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|      |    |           |        |          |                | <input type="checkbox"/> | <input type="checkbox"/>            |
|      |    |           |        |          |                | <input type="checkbox"/> | <input type="checkbox"/>            |
|      |    |           |        |          |                | <input type="checkbox"/> | <input type="checkbox"/>            |

SESE 31 ~~57N~~ 2W  
6 56N

## 10. WELL TESTS:

☐ Pump    ☐ Bailer    ☒ Air    ☐ Flowing Artesian

| Yield gal./min. | Drawdown | Pumping Depth | Time  |
|-----------------|----------|---------------|-------|
| 5 GPM           | 385'     | 385'          | 2 hrs |
|                 |          |               |       |
|                 |          |               |       |
|                 |          |               |       |

Temperature of water        Was a water analysis done? Yes ☐ No ☒

By whom?

Water Quality (odor, etc.) Clear

### Bottom Hole Temperature

### 11. STATIC WATER LEVEL:

61 ft. below surface      Depth artesian flow found 17 2/3

Artesian pressure \_\_\_\_\_ lb. Describe access port \_\_\_\_\_

**Describe Controlling Devices:**

**12. LITHOLOGIC LOG: (Describe repairs or abandonment)**

| Bore Dia. | From | To  | Remarks: Lithology, Water Quality & Temperature                                  | GPM | SWL |
|-----------|------|-----|----------------------------------------------------------------------------------|-----|-----|
| 8"        | 0    | 32  | 18' Sand, G. med., Boulders                                                      |     |     |
| 6"        | 18   | 35  | <del>Sand</del> Gravel Boulders                                                  |     |     |
|           | 35   | 60  | Decomposed Granite (DG) Med                                                      |     |     |
|           | 60   | 75  | DG Med - Med Hg-d                                                                |     |     |
|           | 75   | 100 | Sand & Pepperc (S & P) Hard                                                      |     |     |
|           | 100  | 120 | Soft Crust - 1 GPM Approx                                                        |     |     |
|           | 120  | 300 | S & P Very Hard                                                                  |     |     |
|           | 300  | 379 | Soft Crust S&P Med. tip                                                          |     |     |
|           |      |     | Static is - 6'                                                                   |     |     |
|           |      |     | 375 Med-Rock Green & Brown                                                       |     |     |
|           |      |     | PVC Liner is Randomly                                                            |     |     |
| 31        | 1996 |     | Perforated (Approx 2 in each 20' ft.) From -20 to -385 with cap on bottom of PVC |     |     |

**RECEIVED**

DEC 21 1993

NORTHERN REGION  
DWR

**RECEIVED**

NOV 17 1993

NORTHERN REGION

Date: Started

11-1-93

NORTHERN REGION

Completed

4-93

### 13. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Bob Pitts & Sons Firm No. 235

Firm Official: Dale Pitts Date: 11-5-93

Firm Official [Signature] Date 11-5-93  
and [Signature] 11-5-93

Supervisor or Operator [Signature] Date 11/2/12

FORWARD WHITE COPY TO WATER RESOURCES



## WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

**WELL OWNER**

Name Jim Christy  
Address Rt 1 Box 156A  
Owner's Permit No. Sage Idaho 8838

### NATURE OF WORK

☒ New well      ☐ Deepened      ☐ Replacement

☐ Abandoned (describe method of abandoning)

**PROPOSED USE**

☒ Domestic      ☐ Irrigation      ☐ Test      ☐ Other (specify type)

☐ Municipal      ☐ Industrial      ☐ Stock      ☐ Waste Disposal or  
Infection

## METHOD DRILLED

☐ Cable      ☐ Rotary      ☐ Dug      ☒ Other *air Roten*

## WELL CONSTRUCTION

Diameter of hole 6 inches      Total depth 73 feet  
Casing schedule: ☒ Steel      ☐ Concrete

| Thickness  |        | Diameter   |        | From  |          | To   |            |
|------------|--------|------------|--------|-------|----------|------|------------|
| <u>1.4</u> | inches | <u>6.8</u> | inches | +     | <u>1</u> | feet | <u>7.3</u> |
| _____      | inches | _____      | inches | _____ | _____    | feet | _____      |
| _____      | inches | _____      | inches | _____ | _____    | feet | _____      |
| _____      | inches | _____      | inches | _____ | _____    | feet | _____      |
| _____      | inches | _____      | inches | _____ | _____    | feet | _____      |
| _____      | inches | _____      | inches | _____ | _____    | feet | _____      |

Was casing drive shoe used? ☒ Yes ☐ No  
Was a packer or seal used? ☐ Yes ☒ No  
Perforated? ☒ Yes ☐ No  
How perforated? ☐ Factory ☐ Knife ☒ Torch  
Size of perforation 1/2 inches by 2 1/2 inches

| Number | From | To |
|--------|------|----|
| 24     | 68   | 73 |
|        |      |    |
|        |      |    |
|        |      |    |

Well screen installed? ☐ Yes ☒ No

Manufacturer's name \_\_\_\_\_  
 Type \_\_\_\_\_ Model No. \_\_\_\_\_  
 Diameter \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
 Diameter \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ feet to \_\_\_\_\_ feet

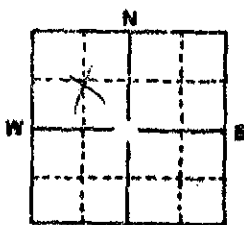
Gravel packed? ☐ Yes ☒ No Size of gravel \_\_\_\_\_  
Placed from \_\_\_\_\_ feet to \_\_\_\_\_ feet

Surface seal depth  Material used in seal ☐ Cement grout  
☐ Puddling clay ☒ Well cuttings

Sealing procedure used ☐ Sherry pit ☐ Temporary surface capping  
☒ Overbore to seal depth

### 1. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name \_\_\_\_\_  
 Lot No. \_\_\_\_\_ Block No. \_\_\_\_\_  
 JAN 31 1996

County Bottineau ND  
 1/4 NW 1/4 Sec. 6, T. 56 N. R. 3 W

## 7. WATER LEVEL

Static water level 21 feet below land surface  
Flowing? ☐ Yes ☒ No G.P.M. flow 4  
Temperature \_\_\_\_\_ ° F. Quality \_\_\_\_\_  
Artesian closed-in pressure \_\_\_\_\_ p.s.i.  
Controlled by ☐ Valve ☐ Cap ☐ Plug

## 8. WELL TEST DATA

☐ Pump      ☐ Bailer      ☐ Other *air knife*

| Discharge G.P.M. | Draw Down | Hours Pumped |
|------------------|-----------|--------------|
| 4                |           | 2            |
|                  |           |              |
|                  |           |              |
|                  |           |              |

## 9. LITHOLOGIC LOG

[illegible]

30.

Work started 7-27-80 finished 7-30-80

## II. DRILLERS CERTIFICATION

Firm Name Wald Book Binding Firm No. 25  
Address Rt 2 Box 508 Elly-Port Date 8-20-  
Signed by (Firm Official) Wm. L. L. L. L.  
and  
(Operator) Wm. L. L. L. L.

STATE OF IDAHO  
DEPARTMENT OF WATER RESOURCES  
**WELL DRILLER'S REPORT**

**State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.**

[illegible]

## WELL DRILLER'S REPORT

JUL 26 1976

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

~~Department of Water Resources~~  
~~Northern District Office~~

[illegible]

USE ADDITIONAL SHEETS IF NEEDED

FORWARD THE WHITE COPY TO

## DEPARTMENT



## WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources  
within 30 days after the completion or abandonment of the well.

## 1. WELL OWNER

Name JOHN LENNARTSON  
Address 2390 LAKE SHORE DR SAGLE ID  
Drilling Permit No. 96-92-N-61  
Water Right Permit No. \_\_\_\_\_

## 7. WATER LEVEL

Static water level +1 feet below land surface.  
Flowing? ☒ Yes ☐ No G.P.M. flow 3 gpm  
Artesian closed-in pressure 2 p.s.i.  
Controlled by: ☐ Valve ☒ Cap ☐ Plug  
Temperature \_\_\_\_\_ °F. Quality \_\_\_\_\_  
*Describe artesian or temperature zones below.*

## 2. NATURE OF WORK

- ☒
- New well
- ☐
- Deepened
- ☐
- Replacement
- 
- ☐
- Well diameter increase
- 
- ☐
- Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

## 8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other \_\_\_\_\_

| Discharge G.P.M. | Pumping Level | Hours Pumped |
|------------------|---------------|--------------|
| <u>10</u>        | <u>155'</u>   | <u>1 hr</u>  |
|                  |               |              |
|                  |               |              |

## 3. PROPOSED USE

- ☒
- Domestic
- ☐
- Irrigation
- ☐
- Test
- ☐
- Municipal
- 
- ☐
- Industrial
- ☐
- Stock
- ☐
- Waste Disposal or Injection
- 
- ☐
- Other \_\_\_\_\_ (specify type)

## 4. METHOD DRILLED

- ☒
- Rotary
- ☐
- Air
- ☐
- Hydraulic
- ☐
- Reverse rotary
- 
- ☐
- Cable
- ☐
- Dug
- ☐
- Other \_\_\_\_\_

## 5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other \_\_\_\_\_

| Thickness          | Diameter         | From           | To              |
|--------------------|------------------|----------------|-----------------|
| <u>.250</u> inches | <u>6"</u> inches | <u>+1</u> feet | <u>120</u> feet |
|                    |                  |                |                 |
|                    |                  |                |                 |
|                    |                  |                |                 |

Was casing drive shoe used? ☒ Yes ☐ NoWas a packer or seal used? ☐ Yes ☒ NoPerforated? ☐ Yes ☒ NoHow perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun

Size of perforation \_\_\_\_\_ inches by \_\_\_\_\_ inches

| Number | From | To |
|--------|------|----|
|        |      |    |
|        |      |    |
|        |      |    |

Well screen installed? ☐ Yes ☒ No

Manufacturer's name \_\_\_\_\_

Type \_\_\_\_\_ Model No. \_\_\_\_\_

Diameter \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ feet to \_\_\_\_\_ feet

Diameter \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ feet to \_\_\_\_\_ feet

Gravel packed? ☐ Yes ☐ No ☐ Size of gravel \_\_\_\_\_

Placed from \_\_\_\_\_ feet to \_\_\_\_\_ feet

Surface seal depth 50' Material used in seal: ☐ Cement grout☒ Bentonite ☐ Pudding clay ☐ \_\_\_\_\_Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing☒ Overbore to seal depthMethod of joining casing: ☐ Threaded ☒ Welded ☐ Solvent

Weld

☐ Cemented between strataDescribe access port WELL CAP

## 9. LITHOLOGIC LOG

| Bore<br>Diam. | Depth |     | Material                | Water |    |
|---------------|-------|-----|-------------------------|-------|----|
|               | From  | To  |                         | Yes   | No |
| 6"            | +1    | 1   | TOP SOIL                |       | X  |
|               | 1     | 115 | CLAY AND BOULDERS       |       | X  |
|               | 115   | 130 | 46MP DECOMPOSED GRANITE | X     |    |
|               | 130   | 140 | SOFT ROCK               |       | X  |
| 6"            | 140   | 155 | GRANITE 6 GPM           | X     |    |
|               |       |     | LINED WITH 4" PVC       |       |    |
|               |       |     | FROM 115 TO 155         |       |    |

RECEIVED

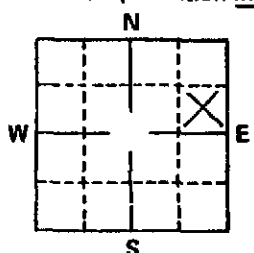
MAY 22 1992

SOUTHERN REGION  
IDWRBob Pitts & Sons  
Well Drilling  
4775 Baldy Mt. Rd.  
Sandpoint, Idaho 83864

## 10.

Work started 5-14-92 finished 5-19-92

## 6. LOCATION OF WELL

Sketch map location must agree with well location.

Subdivision Name \_\_\_\_\_

JAN 31 1996

Lot No. \_\_\_\_\_ Block No. \_\_\_\_\_

County BONNERSE ¼ NE ¼ Sec. 6, T. 56 N 2 E 4

## 11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were  
complied with at the time the rig was removed.Firm Name Bob Pitts & Sons Firm No. 235Well Drilling  
Address 4775 Baldy Mt. Rd. Date \_\_\_\_\_  
Sandpoint, Idaho 83864Signed by (Firm Official) Bob Pittsand  
(Operator) Bob Pitts

## WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

[illegible]

THIS LOG IS FOR ONE WELL { 96-93 N 280-1 } TDK  
96-93 N 280-0  
96-93 N 283-0  
96-93 N 283-1

#7 & #12 DO NOT AGREE ON DEPTH OF OVER BORE

Form 238-7  
6/93

IDAHO DEPARTMENT OF WATER RESOURCES  
WELL DRILLER'S REPORT  
CORRECTION

Use Typewriter  
or  
Ball Point Pen

1. DRILLING PERMIT NO. 96-93-N-280-000  
Other IDWR No.

2. OWNER:  
Name Kevin Rudeen  
Address 224 S. Green Ridge  
City Liberty Lake State WA Zip 99019

3. LOCATION OF WELL by legal description:  
Sketch map location must agree with written location.  
T56N, R24W, SEC6 SENE NE  
T. 5756 North or South  
E. R. 2 East or West  
Sec. 216 1/4 56 1/4 1/4  
Gov't Lot County Bonner

Address of Well Site Lake Shore Drive  
(Give at least Direction + Distance to Road or Landmark)  
Lot No. Block No. Subd. Name

4. PROPOSED USE:  
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation  
☐ Thermal ☐ Injection ☐ Other

5. TYPE OF WORK  
☒ New Well ☐ Modify or Repair ☐ Replacement ☐ Abandonment

6. DRILL METHOD  
☐ Mud Rotary ☒ Air Rotary ☐ Cable ☐ Other

| SEA/FILTER PACK |         | AMOUNT          |           | METHOD |
|-----------------|---------|-----------------|-----------|--------|
| Material        | From To | Sacks or Pounds |           |        |
| Dry Bentonite   | 0 18    | 400#            | over bore |        |

Was drive shoe seal tested? Y ☒ N ☐ How?

| Diameter | From To      | Gauge | Casting | Liner | Steel                               | Plastic                             | Welded                              | Threaded                 |
|----------|--------------|-------|---------|-------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|
| 6"       | +1 60.250    |       |         |       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4"       | -10 385 160# |       |         |       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Final location of shoes 60.5'  
Top Packer or Headpipe Bottom Tailpipe

9. PERFORATIONS/SCREENS  
☒ Perforations Method Skill ☒ Screens Type Material

| From To | Slot Size | Number | Diameter | Tele/Pipe Size |
|---------|-----------|--------|----------|----------------|
| -20 385 | 74"       |        |          |                |

T56N R24W SEC6 SENE NE  
FOR WHITE COPY TO WATER RESOURCES

| 10. WELL TESTS:               |                                 |                                         |                                           |
|-------------------------------|---------------------------------|-----------------------------------------|-------------------------------------------|
| <input type="checkbox"/> Pump | <input type="checkbox"/> Bailer | <input checked="" type="checkbox"/> Air | <input type="checkbox"/> Flowing Artesian |
| Yield gal./min.               | Drawdown                        | Pumping Depth                           | Time                                      |
| 5 GPM                         | 385'                            | 385'                                    | 2 hrs                                     |

Temperature of water Was a water analysis done? Yes ☐ No ☒  
By whom?  
Water Quality (odor, etc.) Clear  
Bottom Hole Temperature

11. STATIC WATER LEVEL:  
6' ft. below surface Depth artesian flow found  
Artesian pressure lb. Describe access port  
Describe Controlling Devices:

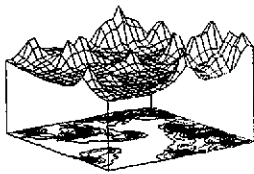
| Bore Dia. | From To   | Remarks: Lithology, Water Quality & Temperature | GPM | SWL |
|-----------|-----------|-------------------------------------------------|-----|-----|
| 8"        | 0 33      | 18' Sand, gravel, boulders                      |     |     |
| 6"        | 18 35     | Gravel boulders                                 |     |     |
|           | 35 60     | Decomposed Granite (DG) Med.                    |     |     |
|           | 60 75     | DG Med - Med Hard                               |     |     |
|           | 75 120    | Soft & Pepper (S & P) Hard                      |     |     |
|           | 120 132   | Soft Crack - 1 GPM approx                       |     |     |
|           | 132 368   | S & P Very Hard                                 |     |     |
|           | 368 379   | Soft Crack 50 GPM total approx                  |     |     |
|           | 379 -     | Static is 6'                                    |     |     |
|           | 379 - 385 | Med-Rock green & brown                          |     |     |

PVC Liner is Randomly Perforated (Approx 2 in each 20' pc.) From -20 to -385 with cap on bottom of PVC

RECEIVED  
DEC 21 1993  
NORTHERN REGION DWR  
Date: Started 11-1-93 Completed 11-5-93

RECEIVED  
NOV 17 1993  
NORTHERN REGION  
Date: Started 11-1-93 Completed 11-5-93

13. DRILLER'S CERTIFICATION  
We certify that all minimum well construction standards were complied with at the time the rig was removed.  
Firm Name Bob Pitts & Sons Firm No. 235  
Firm Official Dale Pitts Date 11-5-93  
and Supervisor or Operator Mark Pitts Date 11-5-93  
263-3042 (once if Firm Official & Operator)



**NORTHERN  
ENVIRONMENTAL  
RESOURCES, INC.**

- ♦ Environmental Site Assessments
- ♦ Ground Water Resource Evaluations
- ♦ Water Quality Testing
- ♦ Water Well Consulting
- ♦ Ground Water Monitoring
- ♦ Contaminated Soil and Water Remediation

Al Beardsley  
Idaho Department of Water Resources  
1910 Northwest Blvd., Suite #210  
Couer d'Alene, ID 83814  
Regarding: Sunset Bay Estates aquifer test report

March 29, 1995

Dear Mr. Beardsley:

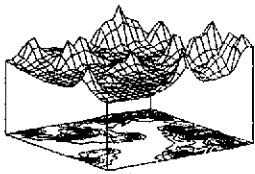
Enclosed is a copy of my report for Fields Cobb on the Sunset Bay Estates aquifer test and monitoring of his well. I believe you had requested one when we met at the site on January 20, 1995.

Sincerely,

John I. Monks  
*Hydrogeologist*

**RECORDED**

JAN 31 1996



**NORTHERN  
ENVIRONMENTAL  
RESOURCES, INC.**

- ♦ Environmental Site Assessments
- ♦ Ground Water Resource Evaluations
- ♦ Water Quality Testing
- ♦ Water Well Consulting
- ♦ Ground Water Monitoring
- ♦ Contaminated Soil and Water Remediation

Fields Cobb  
2362 Lakeshore Drive  
Sagle, ID 83860  
Regarding: Sunset Bay Estates Aquifer Test

February 13, 1995

Dear Fields,

A "constant rate" aquifer test was performed on January 20, 1995 at the Sunset Bay Estates well. The Sunset Bay Estates well was the pumping well. Discharge from the pumping well was measured using a bucket and stopwatch, and was maintained at approximately 60 gallons per minute. Drawdown was measured both at the pumping well and at your well.

I arrived at your home at approximately 8:00 am and turned off the power to your well at 8:03 am. My initial depth to water measurement at your well showed the water level at 16.06 feet below casing top (bct) at 8:10 a.m. The water level was rising slowly, recovering from pumping water that morning. By 9:27 a.m. the water level had recovered to 13.77 feet bct. Pumping from the Sunset Bay Estates well began at 9:30.

Drawdown at the Sunset Bay Estates well and your well are plotted on the attached graph. As you can see, the Sunset Bay Estates well was drawn down 171.8 feet after 160 minutes, while water levels in your well remained static. After 3 hours, discharge from the Sunset Bay Estates well was reduced to maintain the water level in the well above the pump intake. The water level was then maintained at approximately 170 feet bct until 3:00 p.m..

No drawdown occurred in your well during the six hours of the aquifer test. Therefore, there appears to be little or no hydraulic connection between the sands your well is completed in and the sand and gravel the Sunset Bay Estates well is completed in, and pumping from the Sunset Bay Estates well should have little or no effect on your ability to pump water from your well. The diagram on the following page is modified from my original report to you. The sand and gravel beds that your well, the Sunset Bay Estates well and other wells in the area are completed

P.O. Box 1273, Sandpoint, ID 83864, 208-263-7632  
phone & fax

**RECEIVED**

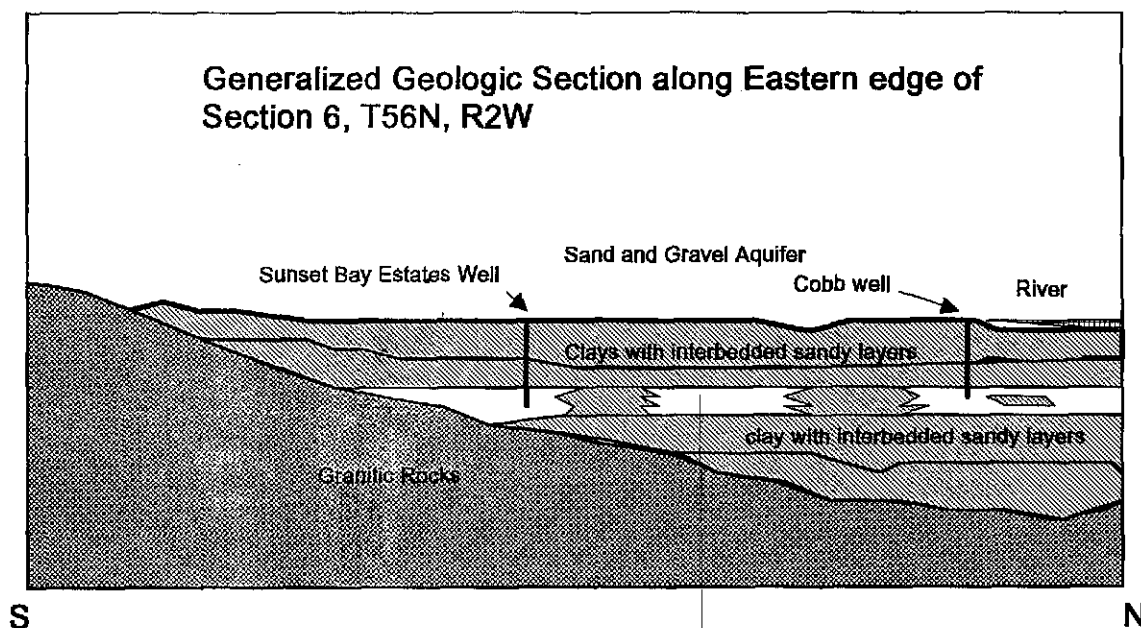
JAN 31 1995

are discontinuous, and are separated by low hydraulic conductivity silts and clays. These kinds of deposits are typically associated with braided or meandering stream channels.

Thank you for the opportunity to assist you in this matter.

John I. Monks  
*Hydrogeologist*

cc: Al Beardsley, IDWR



P.O. Box 1273, Sandpoint, ID 83864, 208-263-7632  
phone & fax

MAILED  
JAN 31 1996

Application No. 96-8823  
SPECIAL NOTE: Receipt # N008357 \$25.00 10/14/94

PROTEST INFORMATION SHEET

Protestant(s)

|    | NAME                             | ADDRESS                         | PROTEST DATE         |
|----|----------------------------------|---------------------------------|----------------------|
| 1  | <u>Gields &amp; Octavia Cobb</u> | <u>2362 Lakeshore Dr. Sagle</u> | <u>1083860 10/14</u> |
| 2  |                                  |                                 |                      |
| 3  |                                  |                                 |                      |
| 4  |                                  |                                 |                      |
| 5  |                                  |                                 |                      |
| 6  |                                  |                                 |                      |
| 7  |                                  |                                 |                      |
| 8  |                                  |                                 |                      |
| 9  |                                  |                                 |                      |
| 10 |                                  |                                 |                      |

ATTORNEY

ADDRESS

DATE FILED: 10/14/94 PROTEST DUE DATE: 10/24/94

ISSUES: Subdivision well would draw from aquifer  
that is source of their supply - feel aquifer supply is  
to small

Applicant

ATTORNEY

ADDRESS

|                                  | DATE                        |
|----------------------------------|-----------------------------|
| Protest Date Entered on Computer | <u>10/14/94</u>             |
| Acknowledgment Letters Sent      | <u>10/17/94</u>             |
| Hearing Date                     | <u>5/31/95 8:00 am here</u> |
|                                  |                             |
|                                  |                             |
|                                  | (Other Dates)               |

Other Information: \_\_\_\_\_

Protest information submitted to computer (following hearing): \_\_\_\_\_

JAN 31 1996

AFFIDAVIT OF PUBLICATION

State of Idaho

ss.

County of Bonner,

Jean Conacher being first duly sworn on oath

deposes and says that he/she is Bookkeeper

of the Bonner County Daily Bee, a newspaper printed and

published at Sandpoint, Bonner County, Idaho; that the

said newspaper has been continuously and uninterruptedly

published in said Bonner County during a period of 12

months prior to the first publication of the hereto attached

notice of publication in the case of:

Applications for Water Right

as it was published in the regular and entire issue of the

said paper for a period of 2 consecutive weeks,

commencing on 6 day of Oct, 19 94

and ending on the 13 day of Oct, 19 94

and that said notice was published in said newspaper.

On this 24 day of Oct in the year

of 1994, before me, a Notary Public, personally

appeared Jean Conacher,

known or identified to me to be the person whose name

subscribed to the within instrument, and being by me first

duly sworn, declared that the statements therein are true,

and acknowledged to me that he executed the same.

Cawdon L. Inge  
Notary Public for Idaho

Residing at Sandpoint, Id

My commission expires: 6/2000

NOTICE OF APPLICATION  
FOR WATER RIGHT

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

96-08819

LEWIS, GERALD H

LEWIS, PATRICIA

P O BOX 33

SANDPOINT, ID 83864

Source: GROUNDWATER

Diversion Pt: NENESE Sec 2 T

56N R 02W in BONNER County.

Use: IRRIGATION (.600 CFS)

DOMESTIC (.670 CFS)

RECREATION STORAGE (.15.00

AF)

FIRE PROTECTION (1.490 CFS)

DIVERSION TO STORAGE (.220

CFS)

Total Diversion: (1.490 CFS)

Date Filed: 9/1/1994

In: BONNER County

T56N R02W S01 NWSW SWSW

S02 NENE NWNE SWNE SENE

NENW SENW NESE NWSE SWSE

SESE

158.0 ACRES TOTAL

96-08820

FOURNIER, BARBARA

5100 BALDY MOUNTAIN

SANDPOINT, ID 83864

Source: SPRINGS Tributary:

SINKS

Diversion Pt: NENENW Sec 18 T

57N R 02W in BONNER County.

NWNENW Sec 18 T 57N R 02W in

BONNER County.

Use: IRRIGATION (. . 0 3 0

CFS)

IRRIGATION STORAGE

(.75 AF)

IRRIGATION FROM STORAGE

(.75 AF)

STOCKWATER (.020 CFS)

STOCKWATER STORAGE

(.75 AF)

STOCKWATER FROM STORAGE

(.75 AF)

Total Diversion: (.050 CFS)

Date Filed: 9/15/1994

In: BONNER County

T57N R02W S18 NENW

1.0 ACRES TOTAL

96-08821 OK

FOURNIER, BARBARA

5100 BALDY MOUNTAIN

SANDPOINT, ID 83864

Source: TURNIPSEED CREEK

Tributary: PEND OREILLE RIVER

Diversion Pt: NENW Sec 18 T 57N

R 02W in BONNER County.

Use: IRRIGATION (.100 CFS)

Total Diversion: (.100 CFS)

Date Filed: 9/15/1994

In: BONNER County

T57N R02W S18 NENW

5.0 ACRES TOTAL

96-08822 OK

FOURNIER, BARBARA

5100 BALDY MOUNTAIN

SANDPOINT, ID 83864

Source: SPRING Tributary:

RECEIVED

NOV 04 1994

NORTHERN REGION  
IDWR

TURNIPSEED CREEK

Diversion Pt: NENENW Sec 18 T

57N R 02W in BONNER County.

Use: IRRIGATION (.030 CFS)

STOCKWATER (.020 CFS)

DOMESTIC (.060 CFS)

Total Diversion: (.110 CFS)

Date Filed: 9/15/1994

In: BONNER County

T57N R02W S18 NENW

1.0 ACRES TOTAL

96-08823 OK

BROWN, BILL

VERMEER, LOU

102 S 4TH AVE

SANDPOINT, ID 83864

Source: GROUNDWATER

Diversion Pt: SWNE Sec 6 T 56N

R 02W in BONNER County.

Use: IRRIGATION (.100 CFS)

DOMESTIC (.100 CFS)

Total Diversion: (.200 CFS)

Date Filed: 9/8/1994

In: BONNER County

T56N R02W S06 NENE

T57N R02W S31 SESE

9.0 ACRES TOTAL

96-08824 OK

WILLIAMS, DONALD L

P O BOX 1075

SANDPOINT, ID 83864

Source: WOOD CREEK Tribu-

tary: FLUME CREEK

Diversion Pt: NWNW Sec 18 T

58N R 02E in BONNER County.

Use: IRRIGATION (.040 CFS)

STOCKWATER (.020 CFS)

DOMESTIC (.020 CFS)

Total Diversion: (.060 CFS)

Date Filed: 9/19/1994

In: BONNER County

T58N R02E S18 NENW

3.0 ACRES TOTAL

For additional information concerning the property location, call the Northern Regional Office at (208) 769-1450.

The permit(s) will be subject to all prior water rights. Protests must be filed with the applicant and with the Director, Dept. of Water Resources, Northern Region, 1910 Northwest Blvd., Suite 210, Coeur d'Alene, Idaho 83814, together with a protest fee of \$25.00 on or before OCTOBER 24, 1994.

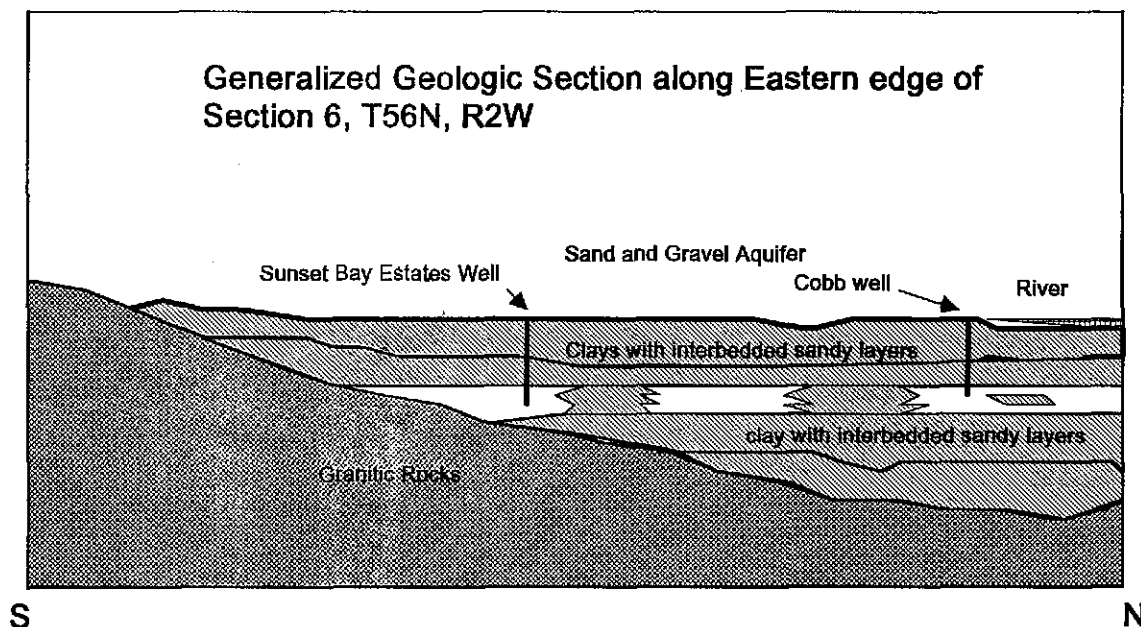
R. KEITH HIGGINSON, Director  
SNP#6398 Oct 6, 13, 1994

are discontinuous, and are separated by low hydraulic conductivity silts and clays. These kinds of deposits are typically associated with braided or meandering stream channels.

Thank you for the opportunity to assist you in this matter.

John I. Monks  
*Hydrogeologist*

cc: Al Beardsley, IDWR



P.O. Box 1273, Sandpoint, ID 83864, 208-263-7632  
phone & fax

**MAILED**  
JAN 31 1996

OCT. 24, 1994

MR. LUT VERMEER  
MR. BILL BROWN

102 SOUTH FOURTH AVE  
SANDPOINT, ID 83864

DEAR MR BROWN & MR. VERMEER:

We have received a letter from Mr. Robert Haynes, Regional Manager (Northern Region) of the Dept. of Water Resources in Coeur d'Alene, suggesting that we contact you to determine if there is a way to resolve the protest that my wife and I registered on Oct. 12, 1994, re the well and water rights application to serve the Sunset Bay Subdivision.

We are willing to consider a reasonable proposal that would provide the protection that we need to assure that your well and registered water rights will not impact upon our right to our domestic water supply. If you have such a proposal or any suggestions concerning the problem and how we might resolve it, please let us know. We are supposed to notify Mr. Haynes by about Nov. 6 should we be able to reach resolution.

Fields W. Abbott  
2342 Lakeshore Drive  
Engle, ID 83860

JAN 31 1996

cc. Mr. Robert Haynes  
Permit # 96-08823



State of Idaho  
**DEPARTMENT OF WATER RESOURCES**  
NORTHERN REGION, Suite No. 210 • 1910 Northwest Blvd. • Coeur d'Alene, Idaho 83814-2615  
(208) 769-1450 Fax (208) 769-1454

CECIL D. ANDRUS

Governor

October 17, 1994

R. KEITH HIGGINSON

Director

Bill Brown and Lou Vermeer  
102 S. 4th Avenue  
Sandpoint, ID 83864

RE: APPLICATION FOR PERMIT 96-08823.

Dear Mr. Brown and Mr. Vermeer:

Enclosed is a copy of a protest filed against the approval of the above-referenced application for permit to appropriate the public waters of the State of Idaho. The Department suggests you contact the protestants directly in an effort to determine the nature of the protest and attempt to resolve the protest.

If you do not advise us within twenty (20) days that the protest has been resolved, the matter will be scheduled for conference and/or hearing. At such a conference and/or hearing, the following are the principle items the Department can consider in either approving or denying the Application for Permit (Section 42-203, Idaho Code):

1. Will the proposed use reduce the quantity of water under existing water rights?
2. Is the proposed water supply insufficient for the purpose intended?
3. Is the application made in good faith or for delay or speculation?
4. Has the applicant sufficient financial resources with which to complete the project?
5. Will the proposed use conflict with the local public interest?
6. Will the proposed use be contrary to the conservation of water resources within the State of Idaho?

You will be notified at a later date of the time and place of the conference and/or hearing. If we can be of any assistance, please contact us.

Sincerely,

  
ROBERT G. HAYNES, Regional Manager

RGH/db  
Enclosure

JAN 31 1995



State of Idaho  
**DEPARTMENT OF WATER RESOURCES**  
NORTHERN REGION, Suite No. 210 • 1910 Northwest Blvd. • Coeur d'Alene, Idaho 83814-2615  
(208) 769-1450 Fax (208) 769-1454

CECIL D. ANDRUS  
Governor

R. KEITH HIGGINSON  
Director

October 17, 1994

Fields and Octavia Cobb  
2362 Lakeshore Drive  
Sagle, ID 83860

RE: APPLICATION FOR PERMIT 96-08823.

Dear Mr. and Mrs. Cobb:

Your protest against the approval of the above-referenced application has been received and a copy has been sent to the applicant. Enclosed is Receipt No. N008357. The Department suggests that you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

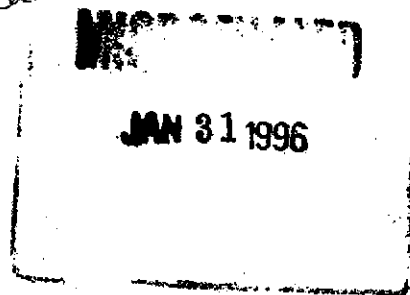
If you do not advise us within twenty (20) days that the protest has been resolved, the matter will be scheduled for conference and/or hearing. At such a conference and/or hearing, the following are the principle items the Department can consider in either approving or denying the Application for Permit (Section 42-203, Idaho Code):

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5. Will the proposed use conflict with the local public interest?
6. Will the proposed use be contrary to the conservation of water resources within the State of Idaho?

You will be notified at a later date of the time and place of the conference and/or hearing. If we can be of any assistance, please contact us.

Sincerely,

ROBERT G. HAYNES, P.E.  
Regional Manager  
RGH/db  
Enc.

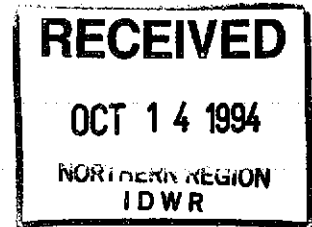


Fields OCTAVIA Cobb  
2362 LAKE SHORE DRIVE  
Sagle, Idaho 83860

R. Keith Higginson, Director  
Dep't Water Resources, No. Region  
1910 Northwest Blvd. Suite 210  
Coeur d'Alene, ID 83814

Receipt# N008357  
10/14/94 

Bill Brown  
Lou Vermeer  
102 South 4th Ave  
Sandpoint, ID 83864



DEAR SIRs:

We hereby register A protest of water right application No. 96-08823 by Bill Brown and Lou Vermeer advertised in the Bonner County Daily Bee on Oct. 6, 1994. We and several of our neighbors are very concerned about the impact that this water right, if granted, may have on our domestic water supplies and existing water rights. We have reason to believe that the well drilled by the applicants to serve a subdivision (and possibly others) is drawing water from the same aquifer from which we obtain our water. We also have reason to believe that the aquifer is quite limited in size and that withdrawal of water by Brown and Vermeer of ~~150~~<sup>ca. 90</sup> gal/minute will seriously affect us and others in the neighborhood.

We are enclosing a check for \$25.00 to cover the protest fee. Please let us know our next step.

JAN 31 1996

Fields W Cobb  
Octavia S. Cobb

96-08823

BROWN, BILL  
VERMEER, LOU  
102 S 4TH AVE  
SANDPOINT, ID 83864

Source: GROUNDWATER

Diversion Pt: SWNE Sec 6 T 56N R 02W in BONNER County.

Use: IRRIGATION ( .100 CFS)  
DOMESTIC ( .100 CFS)  
Total Diversion: ( .200 CFS)

Date Filed: 9/ 8/1994

In: BONNER County  
T56N R02W S06 NENE  
T57N R02W S31 SESE

9.0 ACRES TOTAL

RECEIVED

JAN 31 1996

MEMORANDUM TO FILE

Date: October 31, 1994  
From: Beardslee  
To: 96-08823

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I spoke with Mr. Lou Vermeer regarding this Relinquishment of Permit which we received from them on October 6, 1994. Mr. Vermeer did not wish to Relinquish this filing. He asked me to disregard this notice and stated that it had been filed in error.

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OCT 6 1994

NORTHWEST REGION  
IDWR

RELINQUISHMENT OF PERMIT

TO WHOM IT MAY CONCERN:

I hereby relinquish to the State of Idaho all my right,  
title, and interest in and to Permit to Appropriate the Public  
Waters of the State of Idaho No. 96-08823.

Signed at 108 S. 2nd Sandpoint this 3<sup>rd</sup> day  
of October, 1994.

Bill Brown  
PERMIT HOLDER

Joe Bernier  
PERMIT HOLDER

ATTEST:

Narilyn Wood  
JAN 31 1996



State of Idaho  
**DEPARTMENT OF WATER RESOURCES**  
NORTHERN REGION, Suite No. 210 • 1910 Northwest Blvd. • Coeur d'Alene, Idaho 83814-2615

(208) 769-1450 Fax (208) 769-1454

CECIL D. ANDRUS

Governor

September 28, 1994

R. KEITH HIGGINSON

Director

Bill Brown and Lou Vermeer  
102 S. 4th Ave.  
Sandpoint, ID 83864

Subject: Water Appropriation Application for Permit Number 96-08823.

Dear Mr. Brown and Mr. Vermeer:

The Idaho Department of Water Resources hereby acknowledges receipt of the above-referenced Application for Permit to appropriate the Public Waters of the State of Idaho. Enclosed is Receipt Number N008185. Please refer to your Application for Permit Number in future matters concerning this water right application.

Your Application for Permit is currently being prepared for advertising in the local county newspaper. The advertisement will be published for two consecutive weeks followed by a waiting period of ten days to allow for submittal of protests.

If your application is not protested, it will be forwarded to Boise for processing. Normal processing time is approximately 3 to 4 months, if the application is not protested. If your Application for Permit is protested, you will be sent a copy of the protest and instructions to aid you in resolving the protest without a hearing. All protests must be resolved before your Application for Permit can be approved. If the protest is not resolved, this Department will conduct a conference and/or hearing on the matter.

You will receive your approved Application for Permit and instructions on filing the Proof of Beneficial Use from our State Office in Boise.

If your Application for Permit is for a well (groundwater) that was constructed after July 1, 1987, you must apply for a well drilling permit upon approval of your Application for Permit if no permit was obtained by previous owners to construct the well. Well Drilling Permits can only be issued by this office to holders of approved Applications for Permit.

If I can be of further assistance, please feel free to contact me at this office.

Sincerely,

ALLEN BEARDSLEE

Senior Water Resources

Enc. - Receipt

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September 20, 1994

Mr. Fields Cobb

Regarding: Addendum to report

Dear Fields:

As per our conversation on Sept. 19, 1994, here is my addendum to my report addressing the potential effects of pumping on the Clouse and McLaughlin springs.

Prolonged pumping from the Sunset Bay Estates well could affect flow at the Clouse and McLaughlin springs. The effects on flow from these springs would depend on the pumping rate from the Sunset Bay Estates well and on the local hydrogeology. The well log for your well indicates approximately 150 feet of blue clay overlie the sand and gravel aquifer. Other well logs from section 6, T56N, R2W show more complex stratigraphy, with beds of silty sand, fine sand, and mixed clay and gravel. Two possible scenarios explaining the existence of the springs are outlined below:

1. Water in the springs is coming from the same sand and gravel aquifer that your well and the Sunset Bay Estates well are completed in and reaches the surface due to artesian pressure in the aquifer and fractures or other vertical pathways through the clay layer.
2. Water in the springs is coming from different sand-gravel layers that receive recharge from higher elevation than the springs.

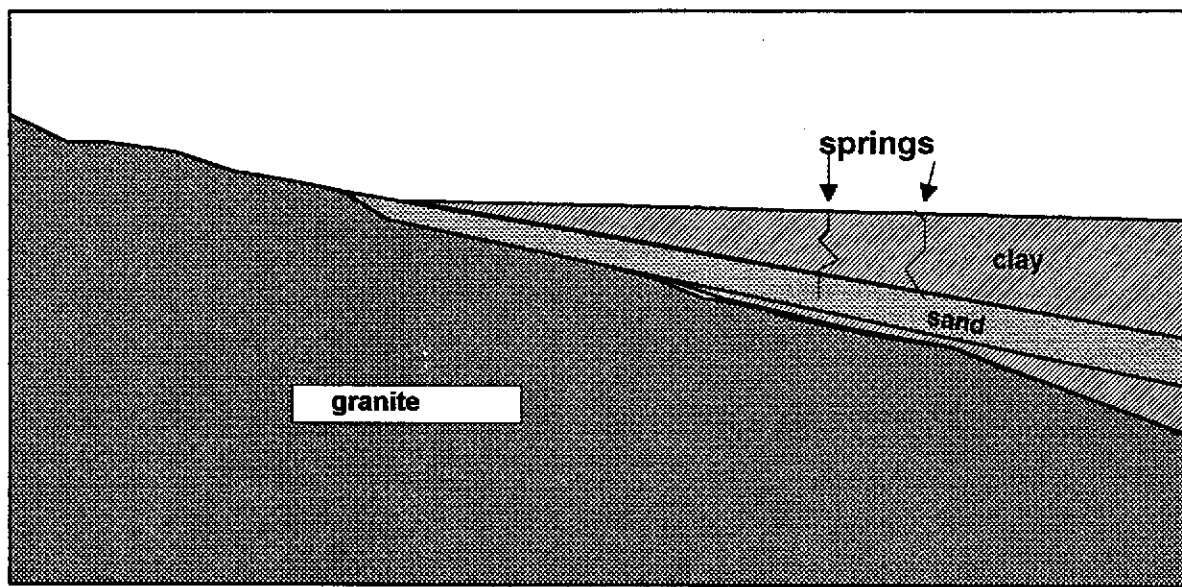
In either case, pumping large amounts of water over a sufficiently long time period from the Sunset Bay Estates well could result in a downward hydraulic gradient that could reduce or eliminate flow from the springs.

Sincerely,

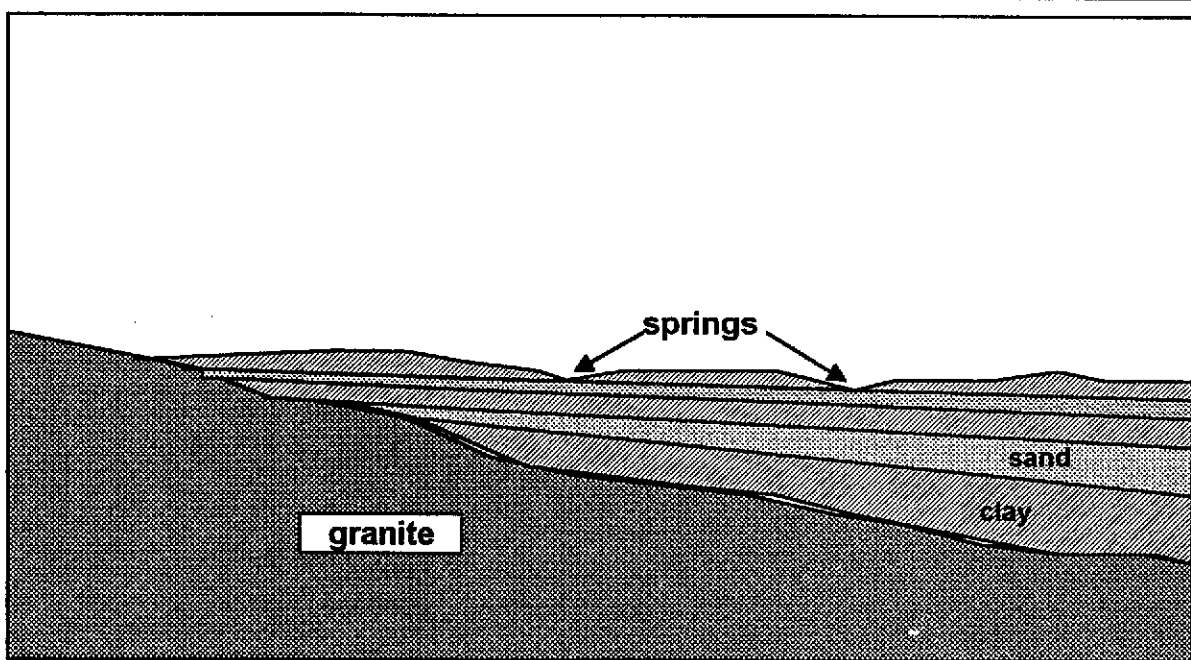
  
John Monks  
Hydrogeologist

P.O. Box 1273 Sandpoint, ID 83864  
208-263-7632

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Scenario #1 with springs due to fractures or vertical pathways through clay.



Scenario #2 with springs due to sand layer reaching land surface.

P.O. Box 1273 Sandpoint, ID 83864  
208-263-7632

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**EVALUATION OF POTENTIAL  
PUMPING EFFECTS ON FIELDS COBB WELL FROM  
THE SUNSET BAY ESTATES WELL**

*John Monks*  
*Hydrogeologist*

*September 8, 1994*

***NORTHERN ENVIRONMENTAL RESOURCES***

**P.O. Box 1273**

**Sandpoint, ID 83864**

**208-263-7632 phone & fax**

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**JAN 31 1996**

## Introduction

This report describes the potential effects of pumping from a well drilled to supply water to the Sunset Bay Estates housing development, located approximately 4.3 miles west of highway 95 along Lakeshore drive in the NE corner of section 6, township 56N, R2W, Bonner County Idaho (see figure 1). The housing development well was drilled in May of 1994 by Bob Pitts and Sons Drilling of Sandpoint, Idaho. The Sunset Bay Estates well is approximately 800 feet south-southwest of the Cobb well. The Cobb well was drilled in August of 1985, also by Bob Pitts and Sons Drilling.

The Cobb well and the Sunset Bay Estates housing development well apparently are completed in and derive water from the same hydrostratigraphic unit. The potential effects of pumping from the development well on the Cobbs well are evaluated in this report.

## Hydrogeology

Thirteen drill logs on file with the Idaho Department of Water Resources from T56N, R2W, section 6 and T56N, R3W, section 1 were reviewed. The well locations given on the drillers' logs are often inaccurate, and the lithology descriptions are sometimes incomplete. As a result, field verification of well locations would be necessary to more accurately describe the hydrogeology of the area. The hydrogeologic interpretations in this report are based on these well logs and the Geologic Map of the Sandpoint Quadrangle published by the Idaho Geological Survey.

Two geologic units have been mapped in the area, Quaternary aged glacial sediments and Tertiary aged granitic rocks. The glacial sediments from top to bottom typically consist of a layer of topsoil derived from Mt. Mazama ash, clays which were deposited in a lacustrine environment, and water-bearing sands and gravels which were deposited by streams or rivers.

Wells drilled in this area are either completed in the water bearing sands and gravels of the glacial deposits or in fractured zones in the granitic rocks. Seven wells are completed in the glacial sediments and six are completed in granitic rocks. The sand and gravel unit has been encountered at depths below ground surface ranging from 73 feet to 150 feet. The thickness of the sand and gravel unit as described in drillers' logs varies from 6 feet to 50 feet. Since the exact location and elevation of each well was not determined, some of the wells completed in sand and gravel beds may be in sand and gravel beds that are different and hydrologically separated from the beds the Cobb and Sunset Bay Estates wells are completed in. Wells completed in granitic rock vary in depth from 250 to 500 feet and sometimes penetrate more than one fractured zone.

The area can be divided into three hydrostratigraphic units: a clay confining layer, a sand and gravel aquifer, and granitic rocks. The clay unit is characterized by very low hydraulic conductivity and forms a confining layer or aquiclude. The sand and gravel unit has a much higher hydraulic conductivity and forms an aquifer. The granitic rocks also have low hydraulic conductivity and act as an aquiclude relative to the sand and gravel unit. A cross section through the area appears in figure 2.

Hydrologic boundaries to the sand and gravel aquifer are formed by the ~~Idaho Department of Water Resources~~ to the south, east and west and by the Pend'Oreille River to the north. The granitic rocks form a

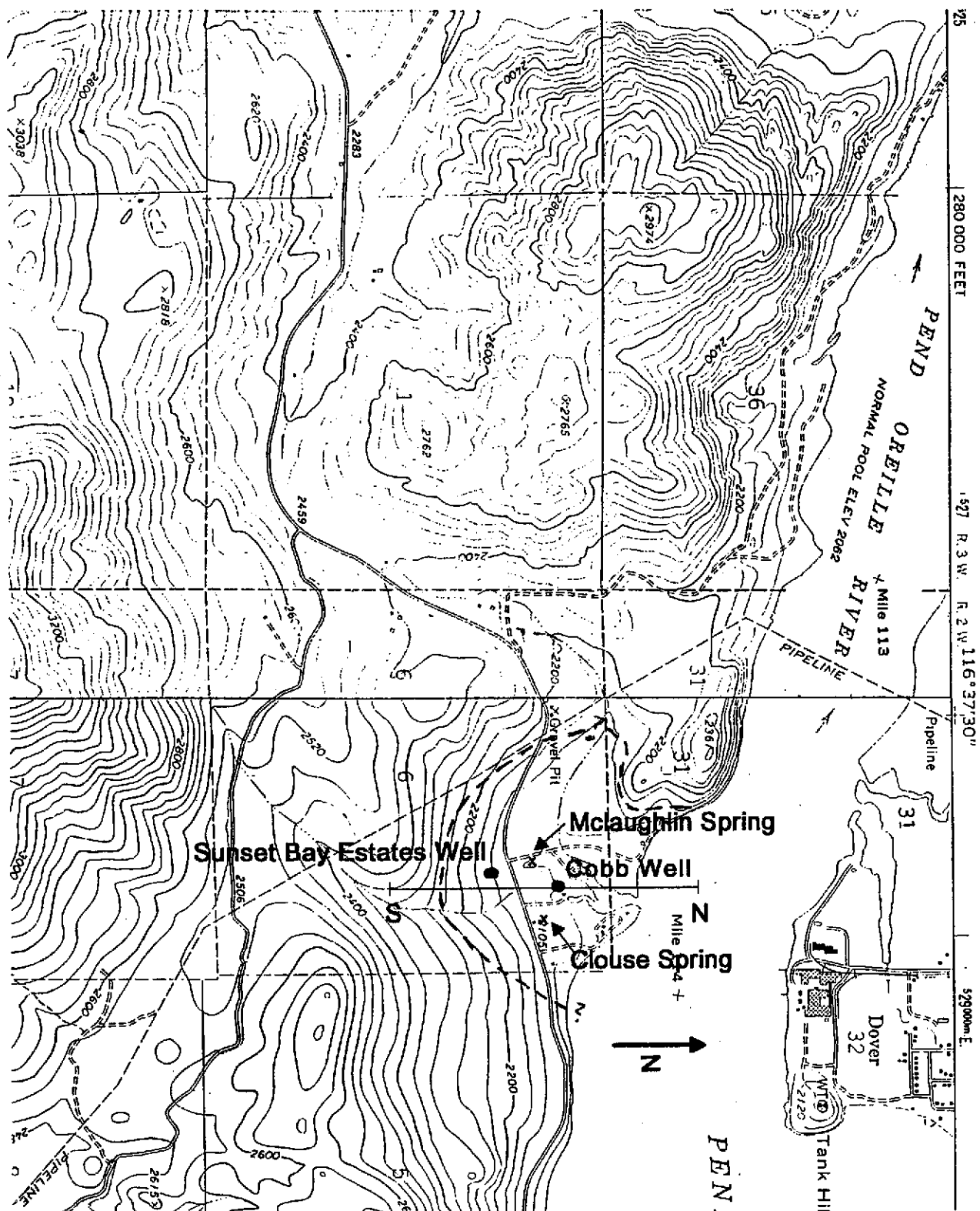


Figure 1. Location map showing approximate locations of Cobb well, Clouse and McLaughlin springs, Sunset Bay Estates well, and aquifer boundaries.

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no-flow boundary and the Pend Oreille River may form a positive head boundary. The Pend Oreille River may be perched on top of the clay layers and thus may not be in direct hydraulic connection with the sand and gravel aquifer.

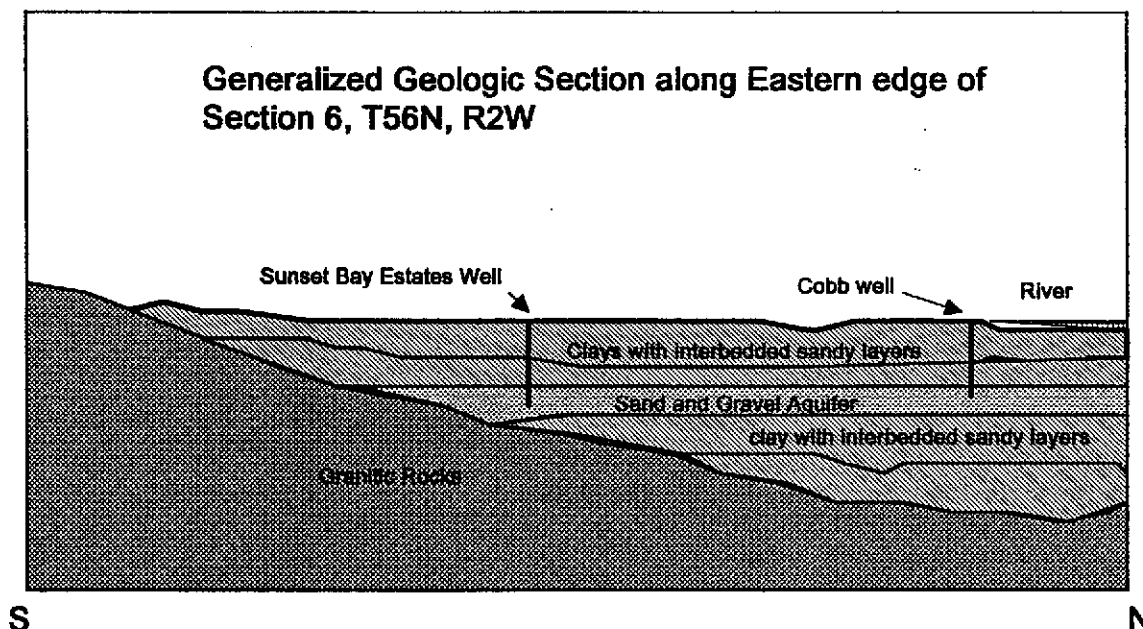


Figure 2. Geologic cross section along the east side of section 6, T56N, R2W, showing hydrogeological conceptual model for the area and the approximate locations of the Cobb well and the Sunset Bay Estates well.

## Drawdown Calculations

Drawdowns at the Cobb well due to pumping from the Sunset Bay Estates well were calculated using the Theis equation for unsteady flow to a well in a confined aquifer. Several assumptions are necessary for the application of the Theis equation. The extent to which actual field conditions approach the assumed conditions determines how accurate the calculated drawdowns are. No aquifer meets the assumptions completely. Some of the assumptions necessary for application of the equation and the extent to which they are met are described below:

1. Aquifer has infinite areal extent. The cone of depression from pumping at the Sunset Bay Estates well will likely reach aquifer boundaries, so this assumption is not met. The effects of boundaries are examined using image well theory.
2. Aquifer is homogeneous, isotropic, and of uniform thickness. The aquifer probably does not meet this assumption, but the effects of these violations are probably small.
3. Aquifer potentiometric surface is initially flat. Not met but assumed to have minor effects.
4. Pumping rate is constant. The calculations presented below assume a constant discharge over one year rather than intermittent pumping.

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5. Pumping well is fully penetrating. Probably not met. Partial penetration of the pumping well will result in greater drawdowns in some areas and smaller drawdowns in others.

Drawdowns at the Cobb well at times varying from one day to one year were calculated using a range of values. Aquifer thickness was assumed to be ten feet. Transmissivity is the product of aquifer thickness and hydraulic conductivity. Hydraulic conductivity values of one foot per day and 10 feet per day were used. Storativity values of 0.001 and 0.0001 were used. Discharge was varied from five gallons per minute to ten gallons per minute, representing 14 households using 500 gallons per day to 1000 gallons per day. The results of these calculations are shown in figure 3 and are tabulated in table 1. Calculated drawdowns after one year of pumping at a constant 10 gpm range over one order of magnitude from approximately seven to seventy feet.

The potential effects of a no flow boundary were examined using image well theory. The worst case scenario from the no boundary calculations was used and the effects of a boundary 200 feet and 500 feet south of the Sunset Bay Estates were calculated and are shown in figure 4. A no flow boundary to the south of the Sunset Bay Estates well would result in increased drawdowns. A no flow boundary 200 feet south of the Sunset Bay Estates well could increase drawdown by approximately 60 feet.

## Summary

The effects of pumping from the Sunset Bay Estates well on the Cobb well range from approximately seven feet of drawdown to approximately 140 feet of drawdown. The wide range in calculated drawdowns results from uncertainty in aquifer transmissivity and the location of aquifer boundaries.

## Recommendations

In order to accurately assess the long term impact of pumping from the Sunset Bay Estates well on the Cobb well and other nearby wells, an aquifer test should be performed. A multiple well aquifer test with the Sunset Bay Estates well as the pumping well and the Cobb well and other nearby wells as observation wells could provide site-specific values for aquifer transmissivity, aquifer storativity, and the locations of aquifer boundaries. Additional field work would be necessary to determine which wells are completed in the same hydrostratigraphic unit. A single well test at the Cobb well could provide a transmissivity value for an area around the Cobb well but would not provide information on storativity or aquifer boundaries.

|                          |         |                          |         |                          |         |                          |         |                          |         |                          |        |
|--------------------------|---------|--------------------------|---------|--------------------------|---------|--------------------------|---------|--------------------------|---------|--------------------------|--------|
| case#:                   | 1       | case#:                   | 2       | case#:                   | 3       | case#:                   | 4       | case#:                   | 5       | case#:                   | 6      |
| Q(gpm):                  | 10.00   | Q(gpm):                  | 10.00   | Q(gpm):                  | 10.00   | Q(gpm):                  | 10.00   | Q(gpm):                  | 7.50    | Q(gpm):                  | 5.00   |
| Q(ft <sup>3</sup> /day): | 1925.00 | Q(ft <sup>3</sup> /day): | 1925.00 | Q(ft <sup>3</sup> /day): | 1925.00 | Q(ft <sup>3</sup> /day): | 1925.00 | Q(ft <sup>3</sup> /day): | 1443.75 | Q(ft <sup>3</sup> /day): | 962.50 |
| radius(ft):              | 800.00  | radius(ft):              | 800.00  | radius(ft):              | 800.00  | radius(ft):              | 800.00  | radius(ft):              | 800.00  | radius(ft):              | 800.00 |
| T(ft <sup>3</sup> /day): | 10.00   | T(ft <sup>3</sup> /day): | 100.00  | T(ft <sup>3</sup> /day): | 10.00   | T(ft <sup>3</sup> /day): | 100.00  | T(ft <sup>3</sup> /day): | 10.00   | T(ft <sup>3</sup> /day): | 10.00  |
| S:                       | 1E-03   | S:                       | 1E-03   | S:                       | 1E-04   | S:                       | 1E-04   | S:                       | 1E-04   | S:                       | 1E-04  |

| time (day) | drawdown case #1 |           |       | drawdown case #2 |      |       | drawdown case #3 |      |       | drawdown case #4 |      |       | drawdown case #5 |      |       | drawdown case #6 |      |       |
|------------|------------------|-----------|-------|------------------|------|-------|------------------|------|-------|------------------|------|-------|------------------|------|-------|------------------|------|-------|
|            | u                | W(u)      | S(ft) | u                | W(u) | S(ft) | u                | W(u) | S(ft) | u                | W(u) | S(ft) | u                | W(u) | S(ft) | u                | W(u) | S(ft) |
| 1.00       | 16.00            | -17607.19 | 0.00  | 1.60             | 0.09 | 0.13  | 1.60             | 0.09 | 1.32  | 0.16             | 1.41 | 2.16  | 1.60             | 0.09 | 0.99  | 1.60             | 0.09 | 0.66  |
| 2.00       | 8.00             | -12.01    | 0.00  | 0.80             | 0.31 | 0.48  | 0.80             | 0.31 | 4.76  | 0.08             | 2.03 | 3.11  | 0.80             | 0.31 | 3.57  | 0.80             | 0.31 | 2.38  |
| 3.00       | 5.33             | -0.16     | 0.00  | 0.53             | 0.52 | 0.80  | 0.53             | 0.52 | 7.99  | 0.05             | 2.41 | 3.69  | 0.53             | 0.52 | 5.99  | 0.53             | 0.52 | 3.89  |
| 4.00       | 4.00             | -0.00     | 0.00  | 0.40             | 0.70 | 1.08  | 0.40             | 0.70 | 10.76 | 0.04             | 2.68 | 4.11  | 0.40             | 0.70 | 8.07  | 0.40             | 0.70 | 5.38  |
| 5.00       | 3.20             | 0.01      | 0.15  | 0.32             | 0.86 | 1.31  | 0.32             | 0.86 | 13.16 | 0.03             | 2.90 | 4.44  | 0.32             | 0.86 | 9.86  | 0.32             | 0.86 | 6.57  |
| 6.00       | 2.67             | 0.02      | 0.31  | 0.27             | 0.99 | 1.52  | 0.27             | 0.99 | 15.23 | 0.03             | 3.07 | 4.71  | 0.27             | 0.99 | 11.43 | 0.27             | 0.99 | 7.62  |
| 7.00       | 2.29             | 0.03      | 0.51  | 0.23             | 1.11 | 1.71  | 0.23             | 1.11 | 17.08 | 0.02             | 3.22 | 4.94  | 0.23             | 1.11 | 12.81 | 0.23             | 1.11 | 8.54  |
| 8.00       | 2.00             | 0.05      | 0.75  | 0.20             | 1.22 | 1.87  | 0.20             | 1.22 | 18.73 | 0.02             | 3.35 | 5.14  | 0.20             | 1.22 | 14.05 | 0.20             | 1.22 | 9.36  |
| 9.00       | 1.78             | 0.07      | 1.02  | 0.18             | 1.32 | 2.02  | 0.18             | 1.32 | 20.22 | 0.02             | 3.47 | 5.32  | 0.18             | 1.32 | 15.17 | 0.18             | 1.32 | 10.11 |
| 10.00      | 1.60             | 0.09      | 1.32  | 0.16             | 1.41 | 2.16  | 0.16             | 1.41 | 21.59 | 0.02             | 3.57 | 5.47  | 0.16             | 1.41 | 16.19 | 0.16             | 1.41 | 10.79 |
| 11.00      | 1.45             | 0.11      | 1.64  | 0.15             | 1.49 | 2.28  | 0.15             | 1.49 | 22.84 | 0.01             | 3.67 | 5.62  | 0.15             | 1.49 | 17.13 | 0.15             | 1.49 | 11.42 |
| 12.00      | 1.33             | 0.13      | 1.97  | 0.13             | 1.57 | 2.40  | 0.13             | 1.57 | 24.00 | 0.01             | 3.75 | 5.76  | 0.13             | 1.57 | 18.00 | 0.13             | 1.57 | 12.00 |
| 13.00      | 1.23             | 0.15      | 2.31  | 0.12             | 1.64 | 2.51  | 0.12             | 1.64 | 25.08 | 0.01             | 3.83 | 5.87  | 0.12             | 1.64 | 18.81 | 0.12             | 1.64 | 12.54 |
| 14.00      | 1.14             | 0.17      | 2.66  | 0.11             | 1.70 | 2.61  | 0.11             | 1.70 | 26.09 | 0.01             | 3.91 | 5.98  | 0.11             | 1.70 | 19.57 | 0.11             | 1.70 | 13.04 |
| 15.00      | 1.07             | 0.20      | 3.01  | 0.11             | 1.76 | 2.70  | 0.11             | 1.76 | 27.03 | 0.01             | 3.97 | 6.09  | 0.11             | 1.76 | 20.27 | 0.11             | 1.76 | 13.52 |
| 20.00      | 0.80             | 0.31      | 4.76  | 0.08             | 2.03 | 3.11  | 0.08             | 2.03 | 31.05 | 0.01             | 4.26 | 6.92  | 0.08             | 2.03 | 23.29 | 0.08             | 2.03 | 15.53 |
| 25.00      | 0.64             | 0.42      | 6.43  | 0.06             | 2.23 | 3.42  | 0.06             | 2.23 | 34.23 | 0.01             | 4.48 | 6.86  | 0.06             | 2.23 | 25.67 | 0.06             | 2.23 | 17.12 |
| 30.00      | 0.53             | 0.52      | 7.99  | 0.05             | 2.41 | 3.69  | 0.05             | 2.41 | 36.87 | 0.01             | 4.66 | 7.14  | 0.05             | 2.41 | 27.65 | 0.05             | 2.41 | 18.43 |
| 35.00      | 0.46             | 0.62      | 9.43  | 0.05             | 2.55 | 3.91  | 0.05             | 2.55 | 39.11 | 0.00             | 4.82 | 7.38  | 0.05             | 2.55 | 29.34 | 0.05             | 2.55 | 19.56 |
| 40.00      | 0.40             | 0.70      | 10.76 | 0.04             | 2.68 | 4.11  | 0.04             | 2.68 | 41.07 | 0.00             | 4.95 | 7.58  | 0.04             | 2.68 | 30.81 | 0.04             | 2.68 | 20.54 |
| 45.00      | 0.36             | 0.78      | 12.00 | 0.04             | 2.79 | 4.28  | 0.04             | 2.79 | 42.81 | 0.00             | 5.07 | 7.76  | 0.04             | 2.79 | 32.11 | 0.04             | 2.79 | 21.41 |
| 50.00      | 0.32             | 0.86      | 13.15 | 0.03             | 2.90 | 4.44  | 0.03             | 2.90 | 44.37 | 0.00             | 5.17 | 7.92  | 0.03             | 2.90 | 33.28 | 0.03             | 2.90 | 22.19 |
| 55.00      | 0.29             | 0.93      | 14.22 | 0.03             | 2.99 | 4.58  | 0.03             | 2.99 | 45.79 | 0.00             | 5.27 | 8.07  | 0.03             | 2.99 | 34.34 | 0.03             | 2.99 | 22.89 |
| 60.00      | 0.25             | 1.06      | 16.18 | 0.02             | 3.15 | 4.83  | 0.02             | 3.15 | 48.28 | 0.00             | 5.43 | 8.32  | 0.02             | 3.15 | 36.21 | 0.02             | 3.15 | 24.14 |
| 75.00      | 0.21             | 1.17      | 17.93 | 0.02             | 3.29 | 5.04  | 0.02             | 3.29 | 50.42 | 0.00             | 5.57 | 8.54  | 0.02             | 3.29 | 37.82 | 0.02             | 3.29 | 25.21 |
| 85.00      | 0.19             | 1.27      | 19.48 | 0.02             | 3.41 | 5.23  | 0.02             | 3.41 | 52.30 | 0.00             | 5.70 | 8.73  | 0.02             | 3.41 | 39.23 | 0.02             | 3.41 | 26.16 |
| 95.00      | 0.17             | 1.37      | 20.92 | 0.02             | 3.52 | 5.40  | 0.02             | 3.52 | 53.97 | 0.00             | 5.81 | 8.90  | 0.02             | 3.52 | 40.48 | 0.02             | 3.52 | 26.99 |
| 100.00     | 0.16             | 1.41      | 21.59 | 0.02             | 3.57 | 5.47  | 0.02             | 3.57 | 54.75 | 0.00             | 5.86 | 8.98  | 0.02             | 3.57 | 41.08 | 0.02             | 3.57 | 27.37 |
| 125.00     | 0.13             | 1.60      | 24.55 | 0.01             | 3.79 | 5.81  | 0.01             | 3.79 | 58.12 | 0.00             | 6.08 | 9.32  | 0.01             | 3.79 | 43.59 | 0.01             | 3.79 | 29.06 |
| 150.00     | 0.11             | 1.76      | 27.03 | 0.01             | 3.97 | 6.09  | 0.01             | 3.97 | 60.88 | 0.00             | 6.27 | 9.60  | 0.01             | 3.97 | 45.66 | 0.01             | 3.97 | 30.44 |
| 175.00     | 0.09             | 1.90      | 29.17 | 0.01             | 4.13 | 6.32  | 0.01             | 4.13 | 63.22 | 0.00             | 6.42 | 9.84  | 0.01             | 4.13 | 47.41 | 0.01             | 4.13 | 31.61 |
| 200.00     | 0.08             | 2.03      | 31.05 | 0.01             | 4.26 | 6.52  | 0.01             | 4.26 | 65.24 | 0.00             | 6.55 | 10.04 | 0.01             | 4.26 | 48.93 | 0.01             | 4.26 | 32.62 |
| 225.00     | 0.07             | 2.14      | 32.72 | 0.01             | 4.38 | 6.70  | 0.01             | 4.38 | 67.03 | 0.00             | 6.67 | 10.22 | 0.01             | 4.38 | 50.28 | 0.01             | 4.38 | 33.52 |
| 250.00     | 0.06             | 2.23      | 34.23 | 0.01             | 4.48 | 6.86  | 0.01             | 4.48 | 68.64 | 0.00             | 6.78 | 10.38 | 0.01             | 4.48 | 51.48 | 0.01             | 4.48 | 34.32 |
| 275.00     | 0.06             | 2.32      | 35.61 | 0.01             | 4.58 | 7.01  | 0.01             | 4.58 | 70.09 | 0.00             | 6.87 | 10.53 | 0.01             | 4.58 | 52.57 | 0.01             | 4.58 | 35.04 |
| 300.00     | 0.05             | 2.41      | 36.87 | 0.01             | 4.66 | 7.14  | 0.01             | 4.66 | 71.41 | 0.00             | 6.98 | 10.66 | 0.01             | 4.66 | 53.56 | 0.01             | 4.66 | 35.71 |
| 325.00     | 0.05             | 2.48      | 38.03 | 0.00             | 4.74 | 7.26  | 0.00             | 4.74 | 72.63 | 0.00             | 7.04 | 10.78 | 0.00             | 4.74 | 54.48 | 0.00             | 4.74 | 36.32 |
| 365.00     | 0.04             | 2.59      | 39.73 | 0.00             | 4.86 | 7.44  | 0.00             | 4.86 | 74.40 | 0.00             | 7.16 | 10.96 | 0.00             | 4.86 | 55.80 | 0.00             | 4.86 | 37.20 |

Table 1. Drawdowns at various times for varying aquifer characteristics and discharges.

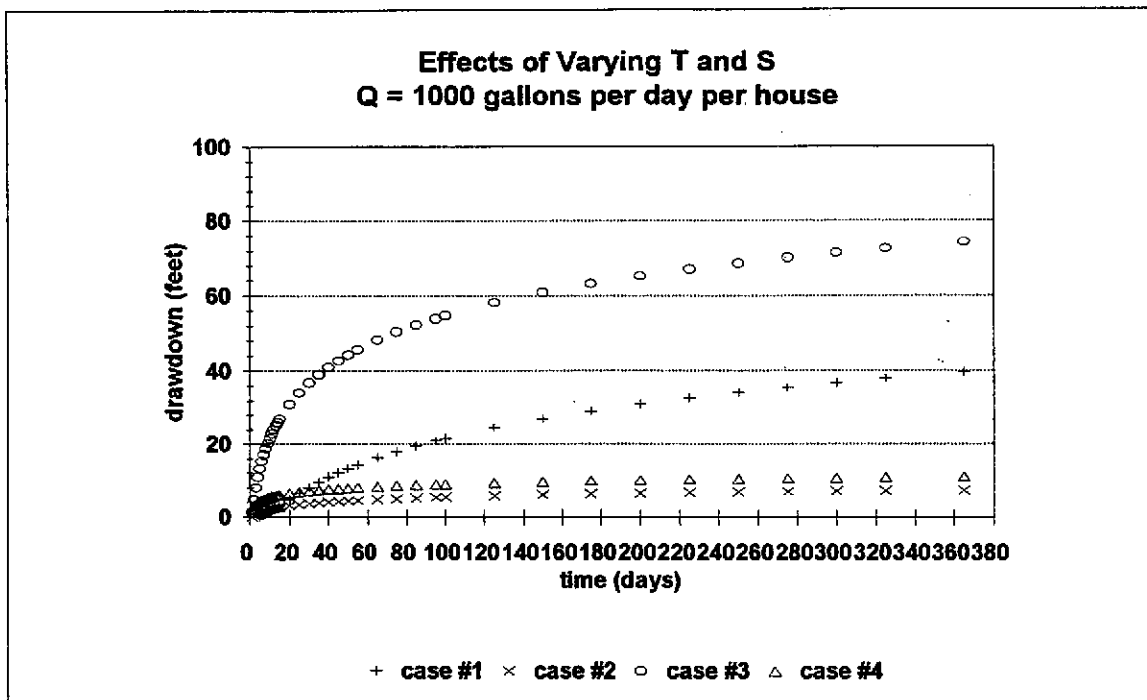


Figure 3. Graph showing the effects of varying transmissivity and storativity on drawdowns at the Cobb well. Constant discharge of 10 gpm.

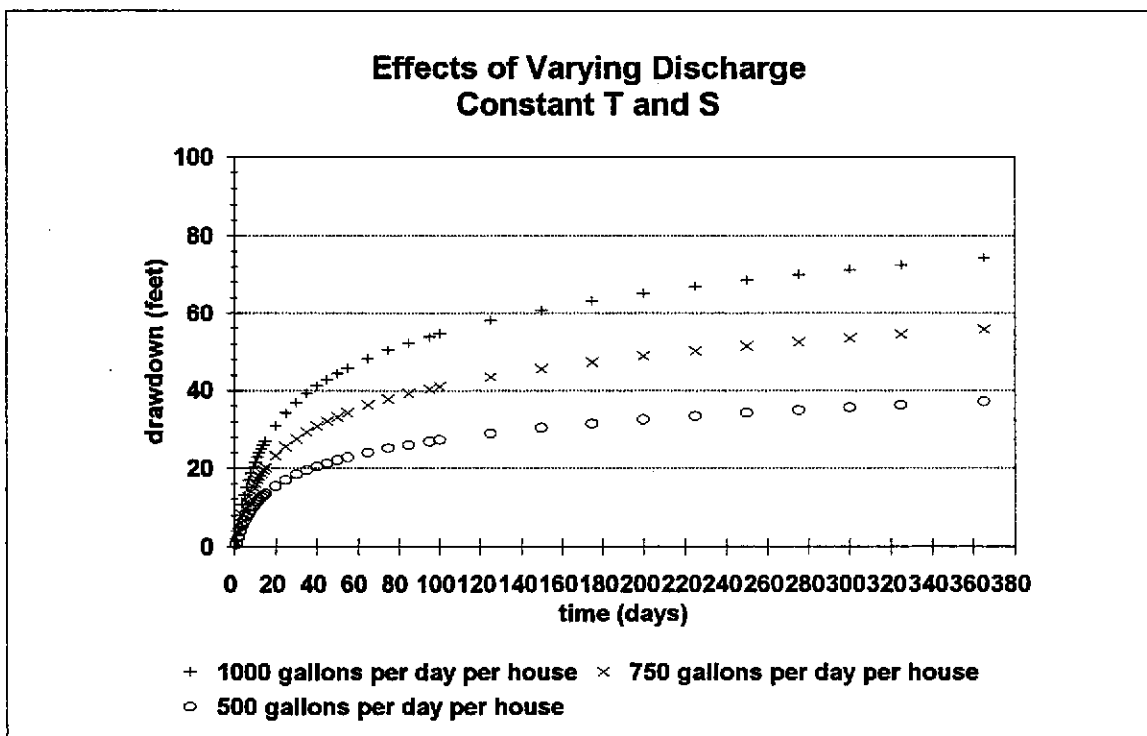


Figure 4. Graph showing the effects of varying discharge on drawdowns at the Cobb well while keeping transmissivity and storativity constant.

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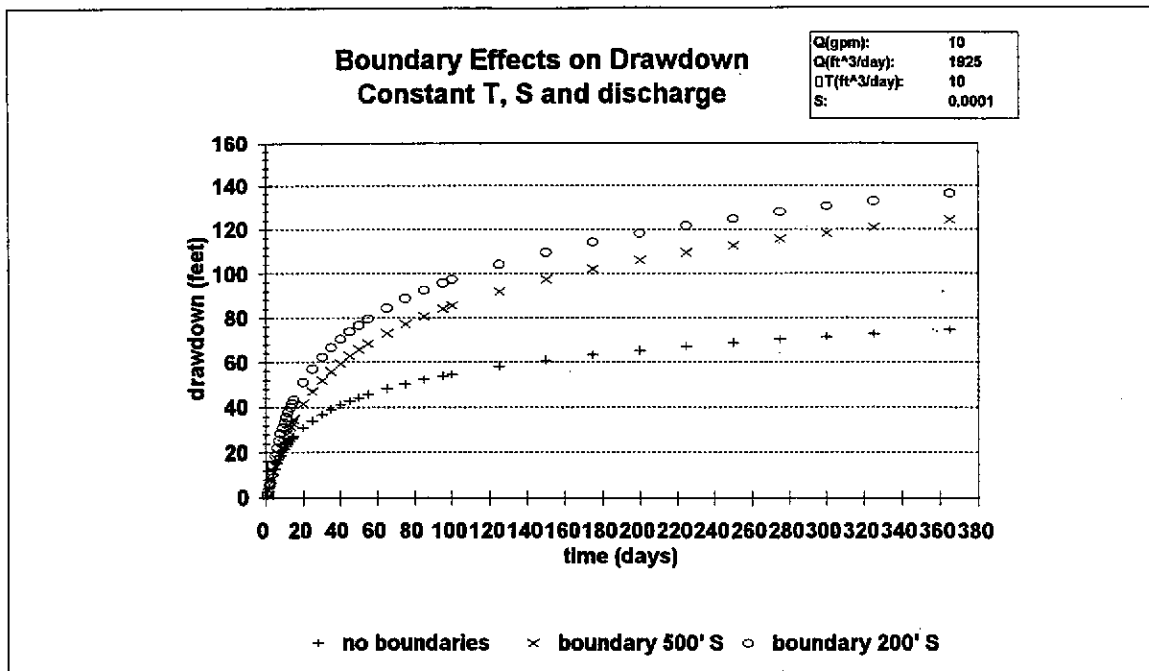


Figure 5. Graph showing the effects of a no flow boundary on drawdowns at the Cobb well.

JAN 31 1996



Drilling Permit No. 96-94-N-127  
 Water Right Permit No. \_\_\_\_\_  
 Injection Permit No. \_\_\_\_\_
**WELL DRILLER: PLEASE COMPLETE FOR VERBALS**IDWR Employee Issuing Verbal: LorettaVerbal Issued Date: 20 May 94 Time: 10:15 AM**RECEIVED**

JUN - 1 1994

NORTHWEST REGION  
IDWR

POSTED

State of Idaho  
Department of Water Resources**APPLICATION FOR DRILLING PERMIT**

1. Applicant (please print): Bill Brown
2. Mailing Address: 4775 Baldy Mtn Rd  
 City & State Sdpt, ID Zip Code 83864 Telephone 263-3042  
☒ Well Owner ☐ Well Operator ☐ Contractor or Other, specify \_\_\_\_\_
3. Proposed Well Location: Twp. 56N, Rge. 2W, Sec. 6, SW 1/4 NW 1/4  
 Gov't Lot No. \_\_\_\_\_ County Bonne  
 Street Address of Well Site Lake Shore Drive, Sagle  
 Lot, block and subdivision \_\_\_\_\_

**4. Proposed Use of Well:**

- ☒ DOMESTIC: The use of water for homes, organization camps, public campgrounds, livestock (1,000 head or less) and for any other purpose in connection therewith, including irrigation of up to 1/2 acre of land, if the total use is not in excess of 13,000 gpd; or any other uses, if the total use does not exceed a diversion rate of 0.04 cfs and a diversion volume of 2500 gpd.

Domestic does not include water for multiple ownership subdivisions, mobile home parks, commercial or business establishments, unless the use does not exceed a diversion rate of 0.04 cfs and a diversion volume of 2500 gpd.

NON-DOMESTIC: ☐ Irrigation ☐ Municipal ☐ Industrial  
☐ Stock ☐ Test ☐ Other \_\_\_\_\_  
 (Over 1,000 Head) (Describe)

☐ INJECTION

☐ MONITORING: A well bore schematic and map is required for each blanket permit.  
 No. of proposed wells: \_\_\_\_\_

**5. Well Construction Information:**

A. ☒ New well ☐ Modify (Deepen or Enlarge) ☐ Replace - See Condition 9

B. Proposed Casing Diameter 6" Proposed Maximum Depth 200'

C. Anticipated bottom hole temperature:

☒ 85°F or less (Cold Water Well) ☐ 85°F to 212°F (Low Temp. Geo. Well) ☐ 212°F or more (Geothermal Well)

6. Construction Start Date: 23 May 94

7. Anticipated Well Driller: Bob Pitts & Sons 235

NOTE: The actual well driller must be identified prior to drilling.

8. Applicant's Signature: [Signature] Date 20 May 94

Title Driller

JAN 31 1996

(Owner, Firm Representative, Other)