AGENDA ITEM SUMMARY

DATE: 1/7/13  DEPARTMENT: PW - Wastewater  DEPT. HEAD SIGNATURE: \\

SUBJECT: Consideration of Resolution 2013-03 authorizing Task Order #5 with HDR Engineering for providing process operations assistance and support for NPDES permit requirements, including a not-to-exceed cost of $20,000.

AUTHORITY: □ ID Code  □ IAR  □ City Ordinance/Code  

(If Applicable)

BACKGROUND/SUMMARY OF ALTERNATIVES CONSIDERED: With the revisions in our NPDES permit we are requesting assistance from HDR Engineering to provide technical assistance and assistance with updated NPDES permit requirements. The cost of these services is limited to $20,000 with any additional costs subject to city council approval.

FISCAL IMPACT / PROJECT FINANCIAL ANALYSIS: Caselle #
Budget Line Item #  YTD Line Item Balance $  
Estimated Hours Spent to Date:  Estimated Completion Date:  
Staff Contact:  Phone #  
Comments:  

ACKNOWLEDGEMENT BY OTHER AFFECTED CITY DEPARTMENTS: (If Applicable)
□ City Administrator  □ Library  □ Benefits Committee  
□ City Attorney  □ Mayor  □ Streets  
□ City Clerk  □ Planning  □ Treasurer  
□ Building  □ Police  
□ Engineer  □ Public Works, Parks  
□ Fire Dept.  □ P & Z Commission  

RECOMMENDATION FROM APPLICABLE DEPARTMENT HEAD: Motion to approve Resolution 2013-03 authorizing Task Order #5 with HDR Engineering for a not to exceed amount of $20,000.

ADMINISTRATIVE COMMENTS/APPROVAL:

City Administrator  Dept. Head Attend Meeting (circle one) Yes  No

ACTION OF THE CITY COUNCIL:
Date 

City Clerk  

FOLLOW-UP:
*Ord./Res./Agrmt./Order Originals: Record  Copies (all info.):  Instrument #  
*Additional/Exceptional Originals to:  Copies (AIS only)
CITY OF HAILEY
RESOLUTION NO. 2013-03

RESOLUTION OF THE CITY COUNCIL FOR THE CITY OF HAILEY
AUTHORIZING THE EXECUTION OF A CONTRACT FOR SERVICES WITH
HDR ENGINEERING, INC.

WHEREAS, the City of Hailey desires to enter into an agreement with HDR Engineering, Inc. (HDR) under which HDR will perform technical assistance for process operations and support for the NPDES permit requirements for a not-to-exceed amount of $20,000.

WHEREAS, the City of Hailey and HDR have agreed to the terms and conditions of the Task Order Number 5, a copy of which is attached hereto.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF HAILEY, IDAHO, that the City of Hailey approves the Task Order Number 5 between the City of Hailey and HDR Engineering, Inc. and that the Mayor is authorized to execute the attached Agreement,

Passed this 7th day of January, 2013.

City of Hailey

Fritz X. Haemmerle, Mayor

ATTEST:

Mary Cone, City Clerk
Heather Dawson

From: Falconer, Haley <Haley.Falconer@hdrinc.com>
Sent: Wednesday, January 02, 2013 8:57 AM
To: Heather Dawson; Roger Parker
Cc: Tom Hellen; Zeltner, Michael
Subject: Operations and NPDES Support - draft scope
Attachments: HDR Scope_Ops_Support_Spring2013_2013-01-02_Final_TechServices_ToCity.pdf

Heather and Roger,

I’ve attached a revised draft scope of work for as-requested operations and NPDES technical support. The new Task 300 in this version includes as-requested, on-call support for NPDES permit related items like O&M plan update and temperature monitoring.

Please let me know if you have any questions or comments.

Happy New Year,

Haley

From: Tom Hellen
Sent: Monday, December 31, 2012 9:22 AM
To: Falconer, Haley
Cc: Heather Dawson; Roger Parker

Haley,

Attached are my rough thoughts for amending Task Order #5. As I’m out of the office until 1/8 please revise this and send it to Heather and Roger for inclusion in the 1/7 council packet. Heather will need it by Thursday am.

Heather, I am writing the agenda item summary based on these revisions. It’s under PW/PW/Council/agendas if you need to revise it.

Tom Hellen
Public Works Director/City Engineer
(208) 788-9830 X14

Please be aware that all email correspondence is public record.

From: Falconer, Haley [mailto:Haley.Falconer@hdrinc.com]
Sent: Friday, December 28, 2012 9:31 AM
To: Tom Hellen
Subject: RE: Draft Ops Support Scope

Will do.
Just to confirm, the way this scope is written right now is to provide to-be-determined technical services. The items that are listed out are just examples of what could be included, but aren’t hard scope items. We wrote it this way after discussing with the City the different types of support that may be required but are not yet defined.

Should I remove some of the detail that’s it their now, add the items below as examples, but keep it as an open technical services scope? This allows flexibility if anything comes up later. This is a time and materials scope – we would only initiate work as it is requested.

Please let me know if you have any questions and I will get you a revised scope by Monday.

Thanks, Haley

From: Tom Hellen [mailto:tom.hellen@halleycityhall.org]
Sent: Friday, December 28, 2012 11:18 AM
To: Falconer, Haley
Subject: RE: Draft Ops Support Scope

Haley,

Please add assistance with the NPDES permit, specifically the temperature sensors, the Quality Assurance Plan, O&M Plan update and the WET test protocol to this scope of work. I’d like to get the council to approve on 1/7.

I need the revision by 12/31 as I’m gone Jan 2 – 7.

Tom Hellen
Public Works, Director/City Engineer
(208) 788-9830 X14

From: Falconer, Haley [mailto:Haley.Falconer@hdrinc.com]
Sent: Tuesday, November 13, 2012 10:02 PM
To: Roger Parker
Cc: Tom Hellen; Zeltner, Michael
Subject: Draft Ops Support Scope

Roger,

Per our conversation last week, I’ve attached a revised operations support scope. Rather than listing out specific activities that we would anticipate helping with, this scope is left as a technical support task order that will allow us to provide you the services and support you request. We will document our activities on a monthly basis and provide them to you in a monthly progress report with the invoice. We will only perform work that you request and the fee will not exceed the amount in the task order, unless an amendment is issued.

Please let me know if you have any questions or if you need any additional information. I will be in the office tomorrow if you would like to chat.

HALEY FALCONER
EIT
HDR Engineering, Inc.
Water/Wastewater Project Engineer
EXHIBIT A

TASK ORDER NO. 5

TECHNICAL SERVICES FOR PROCESS OPERATIONS AND NPDES PERMIT SUPPORT FOR THE WOODSIDE WASTEWATER TREATMENT PLANT
CITY OF HAILEY, IDAHO

This Task Order pertains to an Agreement by and between City of Hailey, Idaho, and HDR Engineering, Inc. ("HDR"), dated August 10, 2009, ("the Agreement"). HDR shall perform services on the project described below and in the Agreement. This Task Order shall not be binding until it has been properly signed by both parties. Upon execution, this Task Order shall supplement the Agreement as it pertains to the technical services described below.

BACKGROUND

The City of Hailey has experienced wastewater treatment process challenges, including ammonia nitrogen effluent excursions and reduced sludge settleability, in part due to microthrix parvicella growth during cold weather months, in their sequencing batch reactor (SBR) system. The City is also faced with new National Pollutant Discharge Elimination System (NPDES) permit requirements that became effective August 2012. The new requirements and special conditions include lower effluent total phosphorus limits, revising the existing operations and maintenance and quality assurance plans, and additional surface water monitoring of the Big Wood River including continuous temperature monitoring.

The purpose of this task order is to provide the City of Hailey with as-requested technical support on a time-and-materials basis to address the NPDES permit requirements. Services that could be requested through this task order may include the development of customized process control parameters and procedures for plant operations so that capital investments may be deferred and permit compliance consistency may be improved; on-site training and technical support to help prepare for upcoming phosphorus removal, improve ammonia nitrogen reduction and sludge settleability; update operations and maintenance and quality assurance plans; and provide recommendations for surface water monitoring.

SCOPE OF SERVICES

This scope of services is for HDR to assist the City of Hailey with plant operations and NPDES permit support. Services will be on-call and will vary depending on requests from the City. The proposed scope of services are identified in the following tasks. HDR will commence with services upon written notice to proceed.

TASK 100 - PROJECT MANAGEMENT

Objective

Prepare and implement a project management plan; provide scope, schedule, and cost control services.

Approach

The approach involves completing necessary project management tasks.

- Monitor scope, budget, and schedule; delegate task assignments and responsibilities by discipline; and coordinate issues with City of Hailey's Project Manager.
- 1-hour conference calls between HDR and the City of Hailey as needed for the duration of the task order schedule.
- Prepare monthly progress reports and invoices that summarize the work progress and the budget expenditures to date.
- Monitor status of quality control reviews of project deliverables.
- Prepare agenda and notes for conference calls and/or meetings.

City of Hailey Involvement
- Interface with HDR on project issues.

Assumptions
- Monthly progress reports for the duration of the task order.
- If the scope changes during the life of the project, modification to the original contract agreement will be required per the terms and conditions of the agreement.
- Invoice format will follow standard HDR format.
- Quality control reviews will be conducted with each task.

Deliverables
- Progress reports and invoices (one (1) hard copy each month).
- Conference call agenda and notes (electronic copy in .pdf format transmitted via email).

TASK 200 - TECHNICAL SERVICES FOR PROCESS OPERATIONS SUPPORT

Objective
Provide the City of Hailey with technical services and operations support related to ammonia control, microthrix control, chemical phosphorus removal, or other as-requested operations support.

Approach
Examples of technical services and operations support that could be provided under this task include:
- Provide operations support through conferences calls and site visits, as requested.
- Provide assistance with the development of technical information required in the new NPDES permit.
- Develop a Sampling and Testing Itinerary that briefly describes the plan for onsite sampling and testing assistance.
- Provide onsite training related to implementation of the Sampling and Testing Itinerary, including:
  o Development of monitoring and process controls related to nitrification and denitrification performance.
  o Optimization of nitrification control and performance to maintain effluent concentrations within the permit limits.
- Review of dissolved oxygen (DO) readings, blower control, and aeration utilization (efficiency versus consistent ammonia removal).
- Advise City of Hailey treatment plant operators of treatment processes to be temporarily modified for implementation of the Sampling and Testing Itinerary.
- Sample process streams and test for parameters included in the Sampling and Testing Itinerary.
- Assist with the modification of process control operating strategies, as needed.
- Review and provide comment on the current daily sampling sheet to identify the parameters that should be sampled and analyzed by City of Hailey staff each day.
- Provide additional assistance with regard to sampling and process control through site visits.
- Provide remote operational process review and data compilation to track process control and effluent quality performance.
- Update plant performance data in Microsoft Excel spreadsheet to graphically view and analyze process trends.
- Report observations from analysis of data before and after process control changes were implemented.

City of Hailey Involvement

- Interface with HDR on project issues.
- Review and provide comment on Sampling and Testing Itinerary.
- Provide written authorization for each site visit and interface with HDR.
- Be available during site visit to work with HDR staff, conduct sampling, and perform analysis.
- Make arrangements for required sampling and analysis equipment to be onsite for HDR site visit.
- Provide available process data to HDR for discussion/troubleshooting purposes.
- Share the process control and effluent performance data with HDR on a monthly basis.

Assumptions

- The itinerary could provide the basis for onsite support; activities performed during onsite visit could change based on the outcome from each day.
- The laboratory equipment and supplies are capable of testing for pH, dissolved oxygen, TSS, ammonia, nitrate, and phosphate concentrations.
- Site visits will be conducted by the HDR’s Operations Specialist at the City of Hailey’s request.
- Each site visit will typically consist of up to eight (8) hours by HDR’s Operations Specialist with the Woodside Boulevard Wastewater Treatment Plant staff, plus associated travel costs.

Deliverables

- Conference call notes (electronic copy in .pdf format transmitted via email).
• Engineer and Operations Specialist site visit reports (electronic copy in .pdf format transmitted via e-mail), if requested by the City of Hailey.

TASK 300 - TECHNICAL SERVICES FOR NPDES PERMIT SUPPORT

Objective
Provide the City of Hailey with technical services related to new or revised NPDES permit requirements or other as-requested permit support.

Approach
Examples of technical services and support that could be provided under this task include:
• Development of the updated quality assurance plan.
• Development of the updated operations and maintenance plan.
• Provide technical support for the development and establishment of new surface water temperature monitoring.
• Development or review of whole effluent toxicity (WET) testing protocol.

City of Hailey Involvement
• Interface with HDR on project issues.
• Provide copies of current operations and maintenance plan and quality assurance plan.
• Provide written authorization for individual NPDES permit support tasks.
• Review all draft documentation and provide one unconflicting set of comments within 14 days.
• Interface with regulatory agencies on issues related to temperature monitoring in the stream.

Assumptions
• Quality assurance plan must be updated by January 31, 2013.
• Operations and maintenance plan must be updated by January 31, 2013.

Deliverables
• Draft updated quality assurance plan (.pdf form)
• Draft updated operations and maintenance plan (.pdf form)
• Final updated quality assurance plan (.pdf form)
• Final updated operations and maintenance plan (.pdf form)
• Temperature monitoring deliverable as requested by the City's Public Works Director.
# PROJECT SCHEDULE

**TECHNICAL SERVICES FOR PROCESS OPERATIONS AND NPDES PERMIT SUPPORT FOR THE WOODSIDE WASTEWATER TREATMENT PLANT**  
**CITY OF HAILEY, IDAHO**

The schedule for performing the services in this task order is as follows:

<table>
<thead>
<tr>
<th>Task</th>
<th>Schedule*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task 100 - Project Management</td>
<td>Through May 3, 2013</td>
</tr>
<tr>
<td>Task 300 - Technical Services for NPDES Permit Support</td>
<td>Through March 29, 2013**</td>
</tr>
</tbody>
</table>

*This schedule is based upon an assumed notice to proceed of January 8, 2013. If the notice to proceed is delayed, the project schedule will shift the corresponding number of calendar days.  
**Except as noted for specific services within Task 300.
COMPENSATION

TECHNICAL SERVICES FOR PROCESS OPERATIONS AND NPDES PERMIT SUPPORT FOR THE WOODSIDE WASTEWATER TREATMENT PLANT CITY OF HAILEY, IDAHO

HDR will invoice the City of Hailey for professional services described in this task order on a time and materials basis. For the activities described, and explicitly requested by the City of Hailey's project manager, HDR will not exceed a professional services fee of up to $20,000 without written authorization from the City of Hailey.
This Task Order is executed this ________ day of _____________, 20__.

City of Hailey, Idaho

"OWNER"

BY: ________________________

NAME: ________________________

TITLE: ________________________

ADDRESS: 115 Main Street S.

Hailey, ID 83333

TELEPHONE: ________________________

HDR ENGINEERING, INC.

"ENGINEER"

BY: ________________________

NAME: Karen M. Doherty, P.E.

TITLE: Vice President

ADDRESS: 412 E. Parkcenter Blvd.

Suite 100

Boise, ID 83706

TELEPHONE: (208) 387-7000
January 2, 2013

Tom Hellen, P.E., Public Works Director
City of Hailey
115 Main St. S., Suite H
Hailey, ID 83333

Re: Water Right Permit Application
Lions Park and Hop Porter Park

Dear Tom,

Please find enclosed a permit application to be signed and filed with the Idaho Department of Water Resources (IDWR). The permit will authorize irrigation of Lions Park and Hop Porter Park using a shallow well to be drilled in Lions Park. Mitigation for the new application will be non-use of a portion of the City’s water rights historically diverted from the Hiawatha Canal. Please have the application signed and returned to SPF for submittal.

There is a $250.00 application fee which must be submitted with the application form. Please let me know if you wish SPF to provide a check for the fee (to be billed to the City at a later date).

Please contact me with any questions concerning this process.

Best Regards,

Roxanne Brown
Sr. Water Rights Specialist

CC:

Enclosures

SPF Job No. 330.0140
STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT
To appropriate the public waters of the State of Idaho

1. Name of applicant(s) City of Hailey
   Phone (208) 788-4221
   Name connector (check one): □ and □ or □ and/or
   Mailing address: 115 S. Main St., #H
   City Hailey
   State ID Zip 83333
   Email: ________________________________

2. Source of water supply groundwater
   which is a tributary of _______________________

3. Location of point(s) of diversion:

<table>
<thead>
<tr>
<th>Twp</th>
<th>Rge</th>
<th>Sec</th>
<th>Govt Lot</th>
<th>¼</th>
<th>¼</th>
<th>¼</th>
<th>County</th>
<th>Source</th>
<th>Local name or tag #</th>
</tr>
</thead>
<tbody>
<tr>
<td>2N</td>
<td>18E</td>
<td>9</td>
<td>NW</td>
<td>SE</td>
<td>SW</td>
<td>Blaine</td>
<td>groundwater</td>
<td>new well</td>
<td></td>
</tr>
</tbody>
</table>

4. Water will be used for the following purposes:
   Amount 0.49 cfs for irrigation purposes from 4/15 to 10/31 (both dates inclusive)
   (cfs or acre-feet per year)
   Amount for purposes from _______ to _______ (both dates inclusive)
   (cfs or acre-feet per year)
   Amount for purposes from _______ to _______ (both dates inclusive)
   (cfs or acre-feet per year)
   Amount for purposes from _______ to _______ (both dates inclusive)
   (cfs or acre-feet per year)

5. Total quantity to be appropriated is (a) 0.49 cubic feet per second (cfs) and/or (b) _______ acre-feet per year (af).

6. Proposed diverting works:
   a. Describe type and size of devices used to divert water from the source. The diversion works will consist of a shallow well located approximately 50' from the mean high water mark in the Big Wood River.
   b. Height of storage dam n/a feet; active reservoir capacity n/a acre-feet; total reservoir capacity n/a acre-feet. If the reservoir will be filled more than once each year, describe the refill plan in item 11.
      For dams 10 feet or more in height OR reservoirs with a total storage capacity of 50 acre-feet or more, submit a separate Application for Construction or Enlargement of a New or Existing Dam. Application required? □ Yes □ No
   c. Proposed well diameter is 10" inches; proposed depth of well is 50 feet.
   d. Is ground water with a temperature of greater than 85°F being sought? □ Yes □ No
   e. If well is already drilled, when? n/a; drilling firm n/a
      Well was drilled for (well owner) n/a; Drilling Permit No. n/a

7. Description of proposed uses (if irrigation only, go to item 8):
   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 or the applicant's qualifications as a municipal provider.

   d. Domestic; show number of households
   e. Other; describe fully.
8. 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.

<table>
<thead>
<tr>
<th>TWP</th>
<th>RGE</th>
<th>SEC</th>
<th>NE</th>
<th>NW</th>
<th>SW</th>
<th>SE</th>
<th>TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2N</td>
<td>18E</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6.2</td>
</tr>
</tbody>
</table>

   Total number of acres to be irrigated: 6.2

9. Describe any other water rights used for the same purposes as described above. Include water delivered by a municipality, canal company, or irrigation district. If this application is for domestic purposes, do you intend to use this water, water from another source, or both, to irrigate your lawn, garden, and/or landscaping? The two sites (Hop Porter Park and Lions Park) are currently irrigated with water delivered through the City of Hailey potable water supply system.

10. a. Who owns the property at the point of diversion? City of Hailey (applicant)
    b. Who owns the land to be irrigated or place of use? City of Hailey (applicant)
    c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing: n/a

11. Describe your proposal in narrative form, and provide additional explanation for any of the items above. Attach additional pages if necessary. See Attachment 1 - Narrative Description of Project & Mitigation Plan

12. Time required for completion of works and application of water to proposed beneficial use is 5 years (minimum 1 year).

13. MAP OF PROPOSED PROJECT REQUIRED - Attach an 8½" x 11" map clearly identifying the proposed point of diversion, place of use, section #, township & range. A photocopy of a USGS 7.5 minute topographic quadrangle map is preferred.

The information contained in this application is true to the best of my knowledge. I understand that any willful misrepresentations made in this application may result in rejection of the application or cancellation of an approval.

Signature of Applicant

Print Name (and title, if applicable)

Signature of Applicant

Print Name (and title, if applicable)

For Department Use:

Received by __________________ Date ___________ Time ______ Preliminary check by __________________

Fee $ ___________ Received by __________________ Receipt No. ___________ Date ___________
Attachment 1 – Narrative Description of Project and Mitigation Plan
Attachment 1 – Narrative Description of Project and Mitigation Plan

**Background.** The City of Hailey (Hailey, or City) currently delivers irrigation water to Hop Porter Park and Lions Park from its potable water supply system using its existing groundwater wells and water distribution facilities. With this application, the City proposes drilling a shallow well on the Lions Park site which will provide an irrigation water supply for both parks using a shared pump system. The new system will irrigate a total of 6.2 acres. The permit to use groundwater for irrigation of Lions Park and Hop Porter Park will be mitigated by non-diversion and non-use of water rights currently owned by the City and delivered in the Hiawatha Canal.

**Well Construction.** Well construction details are as follows:

- The proposed well will be constructed at least 50’ from the mean high water mark in the Big Wood River to comply with Rule 25.01(d) of the Idaho Well Construction Standards Rules (IDAPA 37.03.09).
- The proposed well will be approximately 50’ deep (see Attachment 2, titled "Lions Park Irrigation Well Conceptual Design"). The well is expected to have a direct hydraulic connection to the Big Wood River, as evidenced by the attached analysis prepared by SPF Water Engineering (see Attachment 3, a memo regarding stream depletion analysis).

**Proposed Diversion Rate.** Hailey has existing pressurized irrigation facilities at both Lions Park and Hop Porter Park. These facilities require diversion rates in excess of 0.02 cfs per acre in order to irrigate landscaping during short periods in the evening hours, thus avoiding interference with the public’s normal enjoyment of the parks. In addition, the City actively enforces City Ordinance 13.08.010 which prohibits irrigation within City limits between the hours of 10:00 am and 6:00 pm. Thus Hailey must deliver irrigation water to its parks at a sufficient rate to irrigate turf and landscaping after normal activity ceases in the evening, but before the following day begins and irrigation is prohibited.

The current irrigation system demands are 100 gpm (0.22 cfs) for Hop Porter Park, and 120 gpm (0.27 cfs) for Lions Park (a total of 0.49 cfs). The City’s application proposes the diversion of 0.49 cfs from groundwater to supply the existing irrigation system demands for both parks.

**Proposed Mitigation Plan.** The City of Hailey is the owner of water right nos. 37-22773, 37-22774, 37-22775 and 37-22776. These water rights were historically delivered in the Hiawatha Canal to irrigate farm land northwest of the original site of the City of Hailey, but the rights are currently appurtenant to streets and roadways within the Northridge Subdivision development (see Attachment 4). Partial decrees for the parent rights were issued by the SRBA Court in August 2011, and the rights are currently in the name of the City of Hailey. The City of Hailey intends to reserve these rights for use in support of irrigation of its parks, schools and landscaped areas through administrative transfer or mitigation of new permit applications.

For IDWR’s record-keeping purposes, the City suggests the existing place of use (which cannot physically be irrigated) be treated as a permissible place of use for mitigation purposes. In other
words, the GIS “shape” of the water rights will not be changed, but the elements of the water rights (diversion rate, place of use area, etc.) will be reduced or conditioned by each application until such time the entire right is either transferred, or used for mitigation. Unused portions of the water rights will be placed in the Idaho Water Supply Bank in the future, as necessary.

The City proposes non-irrigation of 6.2 acres of the 22.8-acre area currently authorized by the City’s water rights 37-22773, 37-22774, 37-22775, and 37-22776 to mitigate for the consumptive use of groundwater at the new location. A summary of the water rights prior to any changes is shown in Table 1.

Table 1. Water Rights before Use for Mitigation

<table>
<thead>
<tr>
<th>WR No.</th>
<th>Priority Date</th>
<th>Irrigated Area (acres)</th>
<th>Diversion Rate (cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>37-22776</td>
<td>3/24/1883</td>
<td></td>
<td>0.235</td>
</tr>
<tr>
<td>37-22775</td>
<td>6/30/1884</td>
<td>22.8</td>
<td>0.387</td>
</tr>
<tr>
<td>37-22774</td>
<td>9/18/1885</td>
<td></td>
<td>0.195</td>
</tr>
<tr>
<td>37-22773</td>
<td>5/1/1888</td>
<td></td>
<td>0.194</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>22.8</strong></td>
<td></td>
<td><strong>1.011</strong></td>
</tr>
</tbody>
</table>

The City proposes non-diversion of 80% of each 6.2-acre portion of the four water rights be dedicated to mitigation of the proposed permit. The City also proposes that 20% of each 6.2-acre portion of the water rights continue to be diverted into the Hiawatha Canal in recognition of the existing conveyance losses in the canal. The City will convey a 20% portion of each portion of the water rights used for mitigation to the Hiawatha Canal Water Users Association of Lateral or Laterals (Hiawatha) upon issuance of the approved permit. The portions of each right to be retained by either the City, or Hiawatha, are summarized in Table 2 below.

Table 2 summarizes the water rights after implementation of the mitigation plan. The proposed mitigation plan will result in non-diversion of 0.22 cfs from the Big Wood River, and non-use for the irrigation of 6.2 acres. The City agrees to be limited to an annual diversion volume from groundwater of 21.7 acre-feet (3.5 acre-feet per acre on 6.2 acres).

Although the proposed diversion rate is in excess of the existing rights to be used for mitigation, the effect on the water resource in the area is not enlarged:

1. The annual volume will be limited to no more than could have historically been used for the irrigation of 6.2 acres under the original rights.
2. The consumptive use from the Big Wood River system remains the same because the irrigated area before and after the proposed change remains the same.
3. An instantaneous flow of 0.22 cfs is left in the Big Wood River (non-diversion to the Hiawatha Canal) each and every day. The City’s new pump station will divert 0.49 cfs from the Big Wood River for approximately 8 hours per day. This results in an increased flow in the Big Wood River of 0.22 cfs on non-irrigation days, and a decrease
in actual diversion for the 24-hour period of the authorized irrigation day (0.49 cfs diverted for 8 hours = 0.16 cfs diverted over a 24-hr period).

Table 2. Water Rights after Use for Mitigation

<table>
<thead>
<tr>
<th>WR No.</th>
<th>Priority Date</th>
<th>Mitigation</th>
<th>Conveyance</th>
<th>Remainder</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Irrigated Area (acres)</td>
<td>Diversion Rate - 80% (cfs)</td>
<td>Irrigated Area (acres)</td>
</tr>
<tr>
<td>37-22776</td>
<td>3/24/1883</td>
<td>0.051</td>
<td>0.013</td>
<td>16.6</td>
</tr>
<tr>
<td>37-22775</td>
<td>6/30/1884</td>
<td>0.084</td>
<td>0.021</td>
<td>0.282</td>
</tr>
<tr>
<td>37-22774</td>
<td>9/18/1885</td>
<td>0.042</td>
<td>0.011</td>
<td>0.142</td>
</tr>
<tr>
<td>37-22773</td>
<td>5/1/1888</td>
<td>0.042</td>
<td>0.011</td>
<td>0.141</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>6.2</td>
<td>0.220</td>
<td>0.055</td>
</tr>
</tbody>
</table>

The combined use of the four water rights is for irrigation of 22.8 acres with a diversion rate of 1.011 cfs both before and after implementation of the proposed mitigation plan.
Attachment 2 – Well Conceptual Design
DEPTH (FEET)

ESTIMATED STATIC WATER LEVEL = 10 FEET

16-INCH MINIMUM DIAMETER BOREHOLE

SURFACE SEAL, 0–18 FEET

10-INCH O.D. CASING, 0.365–INCH WALL

10-INCH PIPE SIZE, STAINLESS STEEL WELL SCREEN

COLORADO SILICA SAND OR PEA GRAVEL FILTER
Attachment 3 – Stream Depletion Analysis
MEMORANDUM

DATE: September 19, 2012
TO: Idaho Department of Water Resources
FROM: Terry Scanlan, P.E., P.G., Roxanne Brown
RE: Stream Depletion Analysis – City of Hailey, Lions Park

Job No.: 330.0140

The purpose of this analysis is to determine the theoretical rate of stream depletion in the Big Wood River due to pumping from a proposed well to be drilled by the City of Hailey (City) and used to irrigate two City-owned parks (Lions Park and Hop Porter Park). This process is necessary in order to meet IDWR’s requirement that a water right transfer from surface water to groundwater be supported by a finding that at least 50 percent (by volume) of the water pumped from the proposed well will be depleted from the river within 24 hours.

The new City well will be located in Blaine County, in the SESW of Section 9, T2N R18E, and will be situated approximately 50 feet from the mean high water (MHW) mark in the Big Wood River. The proposed well will be approximately 50 feet deep, will be completed with 10-inch casing to an approximate depth of 25 feet, and a 10-inch stainless steel well screen will be installed from approximately 25 feet to total depth.

The stream depletion analysis is based on a spreadsheet provided by IDWR (Mat Weaver, modified March 27, 2012), which uses the Glover and Balmer method to calculate stream depletion rates and volumes. Using the Glover and Balmer Method, stream depletion rate is dependent on the following factors: (1) duration of pumping, (2) transmissivity (the product of the hydraulic conductivity and saturated thickness of the aquifer), (3) specific yield, (4) distance from the stream source, and (4) pumping rate. In this case, the duration of pumping is one day (the critical time period for 50 percent depletion is 24 hours), distance is 50 feet, and the pumping rate used is 0.49 cfs. The determination of transmissivity and specific yield values required additional analysis which is discussed below.

Transmissivity

By examining information from well driller’s reports and IDWR water right records, we were able to identify 21 wells with lithologic log information within approximately one quarter-mile distance of the proposed well. These driller’s reports are summarized below in Table 1 and driller’s reports are attached. Included are five shallow wells (Wells 10-14) drilled on the Lions Park site as water-quality monitoring wells prior to construction of the park.
<table>
<thead>
<tr>
<th>Well Key</th>
<th>Well Tag/No.</th>
<th>Owner-of-Record</th>
<th>Well Depth (ft)</th>
<th>SWL (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>37-83-C-0009-000</td>
<td>Pete Trojan</td>
<td>41</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>37-83-C-0007-000</td>
<td>Paul Boyd</td>
<td>42</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>unknown</td>
<td>Richard Winkler</td>
<td>32</td>
<td>11.2</td>
</tr>
<tr>
<td>4</td>
<td>unknown</td>
<td>Bill Hair</td>
<td>45</td>
<td>18</td>
</tr>
<tr>
<td>5</td>
<td>43074</td>
<td>Jesse German</td>
<td>55</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>unknown</td>
<td>Frank Cavanaugh</td>
<td>39</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>unknown</td>
<td>Vern Boyd</td>
<td>33</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>34239</td>
<td>Larry Swider</td>
<td>38</td>
<td>12</td>
</tr>
<tr>
<td>9</td>
<td>37-99-5-0133-000</td>
<td>Charles Shabacker</td>
<td>35</td>
<td>11</td>
</tr>
<tr>
<td>10</td>
<td>50499</td>
<td>IDEQ</td>
<td>20</td>
<td>10.7</td>
</tr>
<tr>
<td>11</td>
<td>50500</td>
<td>IDEQ</td>
<td>20</td>
<td>10.4</td>
</tr>
<tr>
<td>12</td>
<td>50501</td>
<td>IDEQ</td>
<td>20</td>
<td>11.7</td>
</tr>
<tr>
<td>13</td>
<td>D0050795</td>
<td>Wood River Land Trust</td>
<td>20</td>
<td>6</td>
</tr>
<tr>
<td>14</td>
<td>D0050796</td>
<td>Wood River Land Trust</td>
<td>20</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>unknown</td>
<td>Calvin Robertson</td>
<td>50</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>unknown</td>
<td>B.C. Evely</td>
<td>32</td>
<td>4.5</td>
</tr>
<tr>
<td>37-88-5-002</td>
<td></td>
<td>Paul O'Connell</td>
<td>38</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>unknown</td>
<td>Frank Bashita</td>
<td>33</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>unknown</td>
<td>John Adams</td>
<td>43</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>unknown</td>
<td>W.A. Lewis</td>
<td>42</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>unknown</td>
<td>Alva Temple</td>
<td>33</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 1. Local Area Wells (Wells with known locations shown on map)

The alluvial aquifer likely extends to an estimated depth of approximately 50 feet at the well site. Only two of the 21 wells for which well logs are available extended to bedrock (although several logs penetrate through layers described as clay or gravel set in clay). The two deepest wells at 50 and 55 feet did not reach bedrock. For purposes of this analysis, we are assuming that the saturated zone extends from the static water level (approximately 10 feet) to the proposed well depth of 50 feet, for a saturated alluvial aquifer thickness of 40 feet.

Transmissivity of the water table aquifer in Hailey vicinity is reported to range from 30,000 to 70,000 ft²/day (Brockway and Kahlown, 1994). Using more site specific data, SPF calculated the average hydraulic conductivities for the saturated materials listed in each of the 21 well logs. Conductivities were estimated based on approximate values for materials
described in Table 2 below. These estimated conductivities are similar with those listed in Tables 2 and 3 of the stream depletion spreadsheet.

<table>
<thead>
<tr>
<th>Hydraulic Conductivity (ft/day)</th>
<th>Specific Yield</th>
<th>Material descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01</td>
<td>0.05</td>
<td>clay, hard pan, granite, shale</td>
</tr>
<tr>
<td>0.1</td>
<td>0.05</td>
<td>gravel set in clay, top soil</td>
</tr>
<tr>
<td>1</td>
<td>0.1</td>
<td>gravel and clay, clay &amp; boulders, sandy clay</td>
</tr>
<tr>
<td>100</td>
<td>0.15</td>
<td>clay, gravel, and sand</td>
</tr>
<tr>
<td>500</td>
<td>0.25</td>
<td>gravel and sand, sand and pea gravel, sandy gravel</td>
</tr>
<tr>
<td>2500</td>
<td>0.2</td>
<td>large gravel and coarse sand, water gravel, gravel</td>
</tr>
</tbody>
</table>

Table 2. Hydraulic conductivity and specific yield values assigned to various material descriptions

The hydraulic conductivity values for the saturated zones in each of the 14 wells were then averaged (806 ft/day) and multiplied by 40 feet to obtain an estimated transmissivity (32,200 ft²/day) for the upper 40 feet of the alluvial aquifer. This transmissivity is at the low end of the range published for the local area (Brockway and Kahlown, 1994). Lower transmissivity values result in less rapid stream depletion, and are therefore conservative.

### Specific Yield

Specific yield was determined in much the same way as transmissivity. Each layer within the saturated zone for surrounding wells was assigned a specific yield (based on the material description in Table 1 of the updated stream depletion spreadsheet), and then averaged across the saturated zone. Using this method, the average specific yield for the local area aquifer is estimated to be 0.17.

### Stream Depletion Results

Using a transmissivity of 32,000 ft²/day, aquifer saturated thickness of 40 feet, and a specific yield of 0.17, the theoretical stream depletion volume for the proposed well after 1 day of pumping was calculated to be approximately 87 percent. This volume exceeds the minimum 50 percent depletion volume required by IDWR for water right transfers from surface water to ground water sources. The complete results are shown in the attached stream depletion analysis table.

A sensitivity analysis shows the following.
1. Arbitrarily reducing the aquifer transmissivity to 3200 ft²/day (a factor of 10 below the calculated and published minimum values) reduces the 24-hour stream depletion volume to 66 percent.

2. Raising the specific yield value to 0.35 (the maximum potential value for gravelly sand) reduces the 24-hour stream depletion volume to 83 percent.

3. Increasing the distance of the well from the river to 100 feet reduces the 24-hour stream depletion volume to 76 percent.

4. Changing the pumping rate has no impact on the percent depletion volume.

The sensitivity analysis demonstrates that the 24-hour depletion volume is above 50 percent for any reasonable range of transmissivity and specific yield values. The high depletion rate is attributable partly to the close proximity of the proposed well to the river.

References


Stream Depletion Analysis Spreadsheet Tool:
for evaluation and estimation of stream depletion
due to the pumping of a nearby well.

Worksheet (tab) 1: About the Stream Depletion Analysis Tool & Worksheet Index

Worksheet (tab) 2: Stream Depletion Analysis Tool

Worksheet (tab) 3: Tabular Summaries of Published Soil Properties

Notes:
This spreadsheet may be used to support the analysis of hydraulic connectivity
between the ground water and the surface water in conjunction with meeting
the "50% depletion requirement" of Transfer Processing Memo No. 24 dated
January 21, 2009 (refer to section 5c (7), pg. 26).

This spreadsheet is not universally applicable. In addition to the need to satisfy
the underlying assumptions of this analysis method, its applicability is further
constrained to instances where the authorized diversion rate is substantially less

DISCLAIMER: This spreadsheet tool was created for internal use
by Department staff. However, the Department is not opposed to
the use of this tool by the public. Public users should be aware
that the use of this tool does not imply or guarantee review
approval by the Department. Furthermore, this tool is provided
with no warranty expressed or implied. The user has full
responsibility to verify all assumptions, relationships, and
calculations contained within.

Prepared By: Mathew Weaver, PE
Created: December 10, 2008
Modified: March 27, 2012

Please contact Mathew Weaver for questions on use, requests for
added features, or required corrections to the spreadsheet.
Stream Depletion Analysis Tool

Project Title
City of Hailey - Lions Park Site

Definition of Variables

Calculation of Stream Depletion Rate & Volume

<table>
<thead>
<tr>
<th>User Defined Input Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>t = 1</td>
</tr>
<tr>
<td>K = 806.00</td>
</tr>
<tr>
<td>b = 40.00</td>
</tr>
<tr>
<td>Sy = 0.17</td>
</tr>
<tr>
<td>a = 50.00</td>
</tr>
<tr>
<td>Q = 0.49</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Calculated Input Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>T = 32,240</td>
</tr>
<tr>
<td>Sy/T = 0.000000527</td>
</tr>
<tr>
<td>Q = 42336</td>
</tr>
<tr>
<td>Qt = 42336</td>
</tr>
<tr>
<td>0.97</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>sdf = 0.0132</td>
</tr>
<tr>
<td>v/sdf = 75.66</td>
</tr>
<tr>
<td>q/Q = 0.933</td>
</tr>
<tr>
<td>v/Qt = 0.873</td>
</tr>
</tbody>
</table>

Stream Depletion Rate

| q = 0.457       | stream depletion rate (ft³/s) |
|                 | % Total = 93.3% contribution of total flow rate from stream (%) |

Stream Depletion Volume

| v = 36,943      | vol. strm depletion (ft³) |
|                 | 0.8481 vol. strm depletion (ac-ft) |
| % Total = 87.3% | contribution of total volume from stream (%) |

Notes and Discussion

Reference:
### Tabular Summaries of Published Soil Properties

**Table 1**

<table>
<thead>
<tr>
<th>Specific Yield, <em>Sy</em></th>
<th>Specific Yield, <em>Sy</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Maximum</td>
</tr>
<tr>
<td>Clay</td>
<td>0.05</td>
</tr>
<tr>
<td>Sandy Clay</td>
<td>0.12</td>
</tr>
<tr>
<td>Silt</td>
<td>0.19</td>
</tr>
<tr>
<td>Fine Sand</td>
<td>0.28</td>
</tr>
<tr>
<td>Medium Sand</td>
<td>0.32</td>
</tr>
<tr>
<td>Coarse Sand</td>
<td>0.35</td>
</tr>
<tr>
<td>Gravely Sand</td>
<td>0.35</td>
</tr>
<tr>
<td>Fine Gravel</td>
<td>0.35</td>
</tr>
<tr>
<td>Medium Gravel</td>
<td>0.26</td>
</tr>
<tr>
<td>Coarse Gravel</td>
<td>0.28</td>
</tr>
</tbody>
</table>

**Table 2**

<table>
<thead>
<tr>
<th>Hydraulic Conductivity, <em>K</em></th>
<th>Hydraulic Conductivity, <em>K</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Maximum</td>
</tr>
<tr>
<td>Clean Gravel</td>
<td>285,000</td>
</tr>
<tr>
<td>Coarse Gravel</td>
<td>2,680</td>
</tr>
<tr>
<td>Fine Sand</td>
<td>29</td>
</tr>
<tr>
<td>Silty Clay</td>
<td>2.88</td>
</tr>
<tr>
<td>Clay</td>
<td>0.0029</td>
</tr>
</tbody>
</table>

**Notes:**
1) This table is recreated from Das 2002, pg. 143.
2) These values are representative of a geotechnical engineering reference and vocabulary.
3) Hydraulic conductivity is the coefficient of proportionality describing the rate at which water can move through a permeable medium.
4) Transmissivity (*T*) is the product of the hydraulic conductivity and the saturated thickness of the aquifer.

**Table 3**

<table>
<thead>
<tr>
<th>Hydraulic Conductivity of Unconsolidated Sediments (today)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil Type</td>
</tr>
<tr>
<td>------------------------------</td>
</tr>
<tr>
<td>Well-sorted gravel</td>
</tr>
<tr>
<td>Well-sorted sands, glacial</td>
</tr>
<tr>
<td>Wash</td>
</tr>
<tr>
<td>28</td>
</tr>
<tr>
<td>28</td>
</tr>
<tr>
<td>143</td>
</tr>
<tr>
<td>Silty sands, fine sands</td>
</tr>
<tr>
<td>Silt, sandy silts, clayey</td>
</tr>
<tr>
<td>sands, till</td>
</tr>
<tr>
<td>Clay</td>
</tr>
<tr>
<td>0.0014</td>
</tr>
</tbody>
</table>

**Notes:**
1) This table is recreated from Fetter 2001, pg. 85.
2) These values are representative of a hydrogeologic science reference and vocabulary.
3) Hydraulic conductivity is the coefficient of proportionality describing the rate at which water can move through a permeable medium.
4) Transmissivity (*T*) is the product of the hydraulic conductivity and the saturated thickness of the aquifer.

**References:**


1. WELL OWNER
Name: Pete Tregan
Address: Hailey 83333
Owner's Permit No. 22-83-0-009-000

2. NATURE OF WORK
☑️ New well
☑️ Deepened
☐ Replacement
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

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

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Diameter</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>inches</td>
<td>inches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>inches</td>
<td>inches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>inches</td>
<td>inches</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Was casing drive shoe used? ☑️ Yes
Was a packer or seal used? ☑️ Yes
Perforated? ☑️ Yes
How perforated? ☑️ Factory
Size of perforation: in by inches
Number of perforations: from feet to feet
Number of perforations: from feet to feet
Number of perforations: from feet to feet

Well screen installed? ☑️ Yes
Manufacturer's name:

Type of screen:
Model No.:
Diameter: from feet to feet
Slot size: feet to feet
Gravel packed? ☐ Yes ☑️ No
Size of gravel: from feet to feet

Surface seal depth: feet
Material used in seal: ☑️ Cement grout
☐ Bentonite
☐ Pudding clay
Sealing procedure used: ☑️ Slurry pit
☐ Temp. surface casting
☐ Overbore to seal depth

Method of joining casing: ☑️ Threaded
☐ Welded
☐ Solvent Weld
☐ Compressed between strata
Describe access port:

6. LOCATION OF WELL
Sketch map location must agree with written location.

Subdivision Name:
Lot No.: Block No.:
County:

7. WATER LEVEL
Static water level: feet below land surface.
Flowing? ☑️ Yes ☐ No
G.P.M. flow: p.s.i.
Artesian closed-in pressure:
Controlled by: ☑️ Valve ☐ Cap ☐ Plug
Temperature: OF.
Quality:

8. WELL TEST DATA
☐ Pump ☑️ Bailer ☐ Air ☐ Other
Discharge: G.P.M.
Pumping Level:
Hours Pumped:

9. LITHOLOGIC LOG

<table>
<thead>
<tr>
<th>Bore</th>
<th>Depth</th>
<th>Material</th>
<th>Water Yes No</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>0 4</td>
<td>Top soil</td>
<td>X</td>
</tr>
<tr>
<td>6</td>
<td>4 10</td>
<td>gravel and clay</td>
<td>X</td>
</tr>
<tr>
<td>6</td>
<td>10 20</td>
<td>gravel and clay</td>
<td>X</td>
</tr>
<tr>
<td>6</td>
<td>20 41</td>
<td>gravel and sand</td>
<td>X</td>
</tr>
</tbody>
</table>


11. DRILLERS CERTIFICATION
We certify that all minimum wall construction standards were complied with at the time the rig was removed.

Kern Smith, Well Drilling
Firm No. 245
Address: Box 116 F Hailey, ID

Signed by (Firm Official):
Kern Smith
(Operator)

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT
1. WELL OWNER
   Name: Paul Boyle
   Address: Hailey 83333
   Owner's Permit No: 37-83-C-0007-000

2. NATURE OF WORK
   - New well
   - Deepened
   - Replacement
   - Abandoned (describe abandonment procedures such as materials, plug depths, etc.)

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 inches
   - Lineal feet
   - Inches + 1 feet + 40 feet
   - Inches + 2 feet + 40 feet
   Was casing drive shoe used?
   - Yes
   - No
   Was a packer or seal used?
   - Yes
   - No
   Perforated?
   - Yes
   - No
   Perforations
   - Number
   - Feet
   - Inches
   - Feet
   - Inches
   Well screen installed?
   - Yes
   - No

6. LOCATION OF WELL
   Sketch map location must agree with written location.
   Subdivision Name
   Lot No.
   Block No.
   County

7. WATER LEVEL
   - Static water level: 7 feet below land surface.
   - Flowing: Yes
   - No
   - G.P.M.: flow
   - Artesian closed-in pressure:
   - p.s.i.
   - Controlled by:
   - Valve
   - Cap
   - Plug
   Temperature:
   - O.F.
   - Quality
   - Describe alteration or temperature zones below:

8. WELL TEST DATA
   - Discharge G.P.M.
   - Pumping Level
   - Hours Pumped

9. LITHOLOGIC LOG
   - Bore Diameter
   - Depth From To
   - Material
   - Water Level

10. WORK started 7/1/1982 finished 7/21/1982

11. DRILLERS CERTIFICATION
    - We certify that all minimum well construction standards were
      complied with at the time the rig was removed.
      Ken Smith Well Drilling
      Firm Name
      Firm No.
      Address
      Signed by (Firm Official)
      and (Operator)
1. WELL OWNER
Name: Richard Winkler
P.O. Box 645
Address: Bailey, ID 83323
Owner's Permit No.: 

2. NATURE OF WORK
☐ New well  ☐ Deepened  ☐ Replacement  ☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

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

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Diameter From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>250 inches</td>
<td>6 5/8 inches</td>
<td>1 foot</td>
</tr>
<tr>
<td>8 inches</td>
<td>7 inches</td>
<td>11 inches</td>
</tr>
<tr>
<td>8 inches</td>
<td>6 inches</td>
<td>1 foot</td>
</tr>
</tbody>
</table>

Was casing drive shoe used? ☐ Yes  ☐ No
Was a packer or seal used? ☐ Yes  ☐ No
Perforated? ☐ Yes  ☐ No

Number of perforations: ☐ Factory  ☐ Knife  ☐ Torch  ☐ Other

Size of perforations: Inches by Inches

Well screen installed? ☐ Yes  ☐ No
Manufacturer's name: 
Type: 
Model No.: 

Diameter: Feet to Feet
Slot set from: Feet to Feet

Gravel packed? ☐ Yes  ☐ No  ☐ Size of gravel
Placed from: Feet to Feet

Surface seal depth: 19 Feet
Material used in seal: ☐ Cement grout  ☐ Bentonite  ☐ Puddling clay

Sealing procedure used: ☐ Slurry pit  ☐ Temp. surface casing  ☐ Overbore to seal depth

Method of joining casing: ☐ Threaded  ☐ Welded  ☐ Solvent Weld

Describe access port: well cap

6. LOCATION OF WELL
Sketch map location must agree with written location.

7. WATER LEVEL
Static water level: 11' 2½" feet below land surface.
Flowing? ☐ Yes  ☐ No  ☐ G.P.M. flow

Artesian conditions: ☐ Yes  ☐ No  ☐ G.P.M. flow

8. WELL TEST DATA
☐ Pump  ☐ Baller  ☐ Air  ☐ Other

<table>
<thead>
<tr>
<th>Discharge G.P.M.</th>
<th>Pumping Level</th>
<th>Hours Pumped</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9. LITHOLOGIC LOG

<table>
<thead>
<tr>
<th>Bore</th>
<th>Depth From</th>
<th>To</th>
<th>Material</th>
<th>Water Wells No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>0</td>
<td>1%</td>
<td>Surface dirt</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>7</td>
<td></td>
<td>Gravel &amp; clay</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>16</td>
<td></td>
<td>Boulders &amp; gravel</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>19</td>
<td></td>
<td>Gravel &amp; clay</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>19</td>
<td>20</td>
<td>Gravel &amp; sand</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>25</td>
<td></td>
<td>Clay, gravel &amp; sand</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>28</td>
<td></td>
<td>Clay &amp; boulders</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>32</td>
<td></td>
<td>Gravel &amp; sand</td>
<td></td>
</tr>
</tbody>
</table>

10. Work started: 2/19/87  finished: 2/19/87

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

Walker Water Systems, Inc.

Firm Name: 624 Piers St.  Firm No.  15
Address: Twin Falls, Idaho 83301
Signed by: Paul Winkler

- 76 -
1. WELL OWNER'S DATA

Name: Bill Hair
Address: Hailey, Idaho
Owner's Permit No.: 15-234-08

2. NATURE OF WORK

[ ] New well  [ ] Deepened  [ ] Replacement
[ ] Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

[ ] Domestic  [ ] Irrigation  [ ] Test  [ ] Municipal
[ ] Industrial  [ ] Stock  [ ] Waste Disposal or Injection
[ ] Other (specify type)

4. METHOD DRILLED

[ ] Rotary  [ ] Air  [ ] Hydraulically  [ ] Reverse rotary

5. WELL CONSTRUCTION

Casing schedule:
[ ] Steel  [ ] Concrete  [ ] Other

Thickness: Length

Diameter From To

50 inches 6 feet + 1 foot 45 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

Number from inches by inches

60 perforations 3 inches x 12 inches

Well screen installed? [ ] Yes  [ ] No

Manufacturer's name:

Type

Diameter Slot size Set from feet to feet

Diameter Slot size Set from feet to feet

Gravel packed? [ ] Yes  [ ] No  [ ] Size of gravel feet to feet

Placed from feet to feet

Surface seal to

Material used in seal:

[ ] Bentonite  [ ] Pudding clay

Sealing procedure used:

[ ] Slurry jet  [ ] Temp. surface casing

Method of joining casing:

[ ] Threaded  [ ] Welded  [ ] Solvent

Describe access port:

6. LOCATION OF WELL

Sketch map location must agree with written location.

Subdivision Name
Lot No.  Block No.

County Blaine

7. WATER LEVEL

Static water level feet below land surface.

Flowing? [ ] Yes  [ ] No  G.P.M. flow

Artesian closed-in pressure p.s.i.

Controlled by: [ ] Valve  [ ] Cap  [ ] Plug

Temperature of Water

Quality

Describe artesian or temperature zones below:

8. WELL TEST DATA

Discharge G.P.M.  Pumping Level

Hours Pumped

9. LITHOLOGIC LOG

Bore No.  Depth From To  Material  Water

10. Work started 6-19-85 finished 6-21-85

11. DRILLERS CERTIFICATION

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

Firm Name: WOOD RIVER DRILLING AND BORE

Box 1162 783-3183

Hailey, Idaho 83333

Date 7-15-85

Signed by (Firm Official) Ken Smith and (Operator) Ira Smith

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT
1. WELL TAG NO. D 0043074
   DRILLING PERMIT NO. 841217
   Water Right or Injection Well No. 

2. OWNER:
   Name: German Jessie
   Address: P.O. Box 1054
   City: Shoshone
   State: ID
   Zip: 83352
   County: Blaine
   Lot: 43
   Sec: 9
   Rge: 1
   Twp: 02
   Lat: 43:07:41'N
   Long: 114:19:293'W
   Address of Well Site: 120 Little Indio Lane
   City: Hailer
   Sub. Name: Little Indio

3. LOCATION OF WELL by legal description:
   You must provide address or Lot, Blk, Sub. or Directions to well.
   Twp. 02 North or South
   Rge. 1 East or West
   Sec. 9 1/4 NE 1/4 SW
   Gov't Lot
   County: Blaine
   Lat: 43:07:41'N
   Long: 114:19:293'W
   City: Hailer
   Sub. Name: Little Indio

4. USE:
   ☑ Domestic  ☑ Municipal  ☑ Monitor  ☑ Irrigation
   ☑ Thermal  ☑ Injection  ☑ Other

5. TYPE OF WORK check all that apply
   ☑ New Well  ☑ Modify  ☑ Abandonment  ☑ Other

6. DRILL METHOD:
   ☑ Air Rotary  ☑ Cable  ☑ Mud Rotary  ☑ Other

7. SEALING PROCEDURES
   Seal Material  from  To  Weight/Volume  Settlement Method
   Bentonite  0  19  25Skts  Overbore
   Was drive shoe used? ☑ Y  ☑ N  Shoe Depth(s) 55'
   Was drive shoe seal tested? ☑ Y  ☑ N  How? 

8. CASING/LINER:
   Diameter  From  To  Gauge  Material  Casing  Liner  Welded  Threaded
   6"  +1 1/2  55  25 Steel  ☑ X  ☑ X  ☑ X  ☑ X
   Length of Casing Pipe  Length of Tailpipe
   Packer ☑ Y  ☑ N  Type

9. PERFORATIONS/SCREENS PACKER TYPE
   Perforation Method
   Screen Type & Method of Installation
   From  To  Bore Size  Number  Diameter  Material  Casing  Liner  Welded  Threaded
   ☑  ☑  ☑  ☑  ☑  ☑  ☑  ☑  ☑  

10. FILTER PACK
   Filter Material  from  To  Weight/Volume  Placement Method
   ☑  ☑  ☑  ☑  

11. STATIC WATER LEVEL OR ARTEZIAN PRESSURE:
   12 ft. below ground
   Artesian pressure __ lb.
   Depth flow encountered __ ft. Describe access port or control devices:

12. WELL TESTS:
   ☑ Pump  ☑ Bailer  ☑ Air  ☑ Flowing Artesian
   Yield ge.John  Drawdown  Pumping Level  Time  1 Hour
   20

   Water Temp. Bottom hole temp.
   Water Quality test or comments:
   Depth first Water Encounter

13. LITHOLOGIC LOG: (Describe repairs or abandonment)
   Water
   | Core Dia | From | To | Remarks: Lithology, Water Quality & Temperature | Y | N |
   | 0 | 0 | 1 | Top Soil |
   | 0 | 1 | 19 | Sand & Gravel & Clay |
   | 19 | 55 | 55 | Sand & Gravel |

14. DRILLER'S CERTIFICATION
   We certify that minimum well construction standards were complied with at the
time the rig was removed.
   Company Name: Wood River Drilling & Pump, Inc.
   Principal Driller: ________________ Date: 08-17-06
   Driller or Operator II: ________________ Date: 08-17-06
   Operator I: ________________ Date: 
   Principal Driller and Rig Operator Required.
   Operator I must have signature of Driller/Operator II.

FORWARD WHITE COPY TO WATER RESOURCES

- 78 -
WELL DRILLER'S REPORT

1. WELL OWNER
Name: FRANK CAVANAUGH
Address: HAILEY, IDAHO
Owner's Permit No.: 

2. NATURE OF WORK
☐ New well  ☐ Deepened  ☐ Replacement
☐ Abandoned (describe method of abandoning)

3. PROPOSED USE
☐ Domestic  ☐ Irrigation  ☐ Test  ☐ Other (specify type)
☐ Municipal  ☐ Industrial  ☐ Stock  ☐ Waste Disposal or Injection

4. METHOD DRILLED
☐ Cable  ☐ Rotary  ☐ Dug  ☐ Other

5. WELL CONSTRUCTION
Diameter of hole: 6 inches
Total depth: 39 feet

Casing schedule: ☐ Steel  ☐ Concrete
Thickness from:
+20 inches  6 inches  +1 feet  39 feet

Was a packer or seal used? ☐ Yes  ☐ No
Perforated? ☐ Yes  ☐ No
How perforated? ☐ Factory  ☐ Knife  ☐ Torch
Number of perforations from:
perforations  feet  feet
perforations  feet  feet
perforations  feet  feet

Was a screen installed? ☐ Yes  ☐ No
Manufacturer's name:

Type:

Date:

Gravel packed? ☐ Yes  ☐ No
Size of gravel:
Placed from:

Surface seal depth: 18 feet
Material used in seal:
Cement grout
Puddling clay
Well casings:

Sealing procedure used:
Stirrup pit  ☐ Temporary surface casing  ☐ Overbore to seal depth

6. LOCATION OF WELL

7. WATER LEVEL
Static water level: 8 feet below land surface
Flowing: ☐ Yes  ☐ No
G.P.M. flow:
Temperature: °F. Quality: GOOD
Artesian closed-in pressure: p.s.i.
Controlled by: ☐ Valve  ☐ Cap  ☐ Plug

8. WELL TEST DATA
☐ Pump  ☐ Bailer  ☐ Other
Discharge G.P.M.:
Draw Down:
Hours Pumped:
LOG IN +

9. LITHOLOGIC LOG

<table>
<thead>
<tr>
<th>Hole</th>
<th>Depth From To</th>
<th>Material</th>
<th>Water Yes No</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0 2</td>
<td>TOP SOIL</td>
<td>X</td>
</tr>
<tr>
<td>2</td>
<td>2 9</td>
<td>GRAVEL &amp; CLAY</td>
<td>X</td>
</tr>
<tr>
<td>9</td>
<td>9 29</td>
<td>SAND &amp; GRAVEL</td>
<td>X</td>
</tr>
<tr>
<td>26</td>
<td>26 55</td>
<td>GRAVEL SET IN CLAY</td>
<td>X</td>
</tr>
<tr>
<td>38</td>
<td>38 59</td>
<td>WATER GRAVEL</td>
<td>X</td>
</tr>
</tbody>
</table>

10. Work started: 29 MAY 75  finished: 30 MAY 75

11. DRILLER'S CERTIFICATION
Firm Name: KEEN SMITH WELL DRILLING  Firm No. 205
Address: 1165 HAILEY, IDAHO  Date: 10 SEPT 75

Signed by (Firm Official): Keen Smith
and (Department):

USE ADDITIONAL SHEETS IF NECESSARY  FORWARD THE WHITE COPY TO THE DEPARTMENT
State of Idaho
Department of Water Administration

WELL DRILLER'S REPORT

1. WELL OWNER

Name: Vern Boyd
Address: Hailey, Idaho
Owner's Permit No.

2. NATURE OF WORK

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

3. PROPOSED USE

☐ Domestic  ☐ Irrigation  ☐ Test
☐ Municipal  ☐ Industrial  ☐ Stock

4. METHOD DRILLED

☐ Cable  ☐ Rotary  ☐ Dug  ☐ Other

5. WELL CONSTRUCTION

Diameter of hole: 6 inches
Total depth: 58 feet
Casing schedule: ☐ Steel  ☐ Concrete
Thickness: ☐ 6 inches ☐ 8 inches

Was a packer or seal used? ☐ Yes  ☐ No
Perforated? ☐ Yes  ☐ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation: 1/8 inches by 2 inches
Number of perforations: 24

Well screen installed? ☐ Yes  ☐ No
Manufacturer's name:

6. LOCATION OF WELL

Sketch map location must agree with written location.

County: Blaine

7. WATER LEVEL

Static water level: 20 feet below land surface
Flowing? ☐ Yes  ☐ No
Temperature: ☐  F. Quality:
Artesian closed-in pressure: 1 psi
Controlled by: ☐ Valve  ☐ Cap  ☐ Plug

8. WELL TEST DATA

☐ Pump  ☐ Baller  ☐ Other
Discharge G.P.M.: 20
Draw Down: 0
Hours Pumped: 1

9. LITHOLOGIC LOG

<table>
<thead>
<tr>
<th>Hole</th>
<th>Sample</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>39682</td>
<td>Med Gravel - Basalt</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Hard pan</td>
<td>1</td>
</tr>
<tr>
<td>17, 20</td>
<td>Brown Clay - Sand</td>
<td>1</td>
</tr>
<tr>
<td>33</td>
<td>Granite</td>
<td>1</td>
</tr>
</tbody>
</table>

10. Work started: 5-12-71, finished: 5-14-71

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

[Driller's Name]

Date: 6-10-71

State of Idaho
Department of Water Administration

USE ADDITIONAL SHEETS IF NECESSARY  FORWARD THIS WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

- 80 -
1. WELL TAG NO. D 0034239
   DRILLING PERMIT NO. 823688
   Other IDWR No. 10 394288

2. OWNER:
   Name: Snyder Larry & Diane
   Address: P.O. Box 711
   City: Hailey
   State: ID Zip: 83333

3. LOCATION OF WELL by legal description:
   Sketch map location must agree with written location.

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

5. TYPE OF WORK: check all that apply (Replacement etc.)
   ☑ New Well ☐ Modify ☐ Abandonment ☑ Other ☐ Replacement

6. DRILL METHOD:
   ☑ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other

7. SEALING PROCEDURES
   SEAL/FILTER PACK
   Material   From   To   AMOUNT   METHOD
   Bentonite   0 19 125kgs Overbore

8. CASING/LINER:
   Diameter   From   To   Length   Material   Casing Liner welded Threaded
   6" +1½' 38' 250 Steel  X  X

9. PERFORATIONS/SCREENS
   Perforation Method
   Screens Screen Type
   From   To   Slot Size   Number   Diameter   Material   Casing Liner

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
    12 ft. below ground  Artesian pressure ___lb.
    Depth flow encountered ___ft. Describe access port or control devices:

11. WELL TESTS:
    ☑ Pump ☐ Baller
    ☐ Air ☐ Flowing Artesian
    Yield gpm Drawdown Pumping Level 1 hour
    ______ 60  ______

   Water Temp. __________________________
   Water Quality test or comments: __________________________
   Bottom hole lamp: __________________________
   Depth first Water Encounter: __________________________

12. LITHOLOGIC LOG: (Describe repairs or abandonment) Water
   Bare Dk. From To Remarks: Lithology, Water Quality & Temperature
   10 0 6 Top Soil X
   10 6 19 Gravel & Boulders X
   6 19 36 Gravel & Boulders X
   6 36 38 Clay X

13. DRILLER'S CERTIFICATION
   We certify that all minimum well construction standards were complied with at
   the time the rig was removed.
   Company Name: Wood River Drilling Firm No:265
   Firm Officer: Ken Smith Date: 08-17-04
   Driller or Operator: __________________________ Date: __________________________

RECEIVED
AUG 19 2004
Department of Water Resources
Southern Region

Completed Depth 38' (Measurable)
Date: Started: 08-14-04 Completed: 08-16-04

FORWARD WHITE COPY TO: WATER RESOURCES
1. WELL TAG NO. D 0008421
   DRILLING PERMIT NO. 37.99. S. 6 (33,000)
   Other IDWR No. ______

2. OWNER:
   Name Charles Schbacker
   Address 2087 Ranch Vista Drive
   City Twin Falls
   State ID Zip 83301

3. LOCATION OF WELL by legal description:
   Sketch map location must agree with written location.

4. USE:
   Of Domestic ☑ Municipal ☐ Irrigation ☐
   ☐ Thermal ☐ Injection ☐ Other ☐

5. TYPE OF WORK check all that apply
   ☒ New Well ☐ Modify ☐ Abandonment ☐ Other ☐

6. SEPARATION PROCEDURE
   ☑ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other ☐

7. SEPARATION PACK
   Amount

   Method

8. CASING/LINER:

   Diameter From To Gravel Material Casing Liner Welded Threaded

   Length of Headpipe Length of Tailpipe

9. PERFORATIONS/SCREENS

   Perforations Method

   Screens Screen Type

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

   11 ft. below ground Artesian pressure 107 lb.

   Depth flow encountered 10 ft. Describe access port or control devices;

11. WELL TESTS:

   Pump ☐ Bailer ☐
   Time 1 Hour

   Water Temp. ☐ Bottom hole temp. ☐

   Water Quality test or comments: Depth first Water Encounter

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

<table>
<thead>
<tr>
<th>Rock Dia. From To</th>
<th>Remarks: Lithology, Water Quality &amp; Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>8&quot; 0 2 Top Soil</td>
<td>X</td>
</tr>
<tr>
<td>8&quot; 3 10 Boulders-gravel-Clay</td>
<td>X</td>
</tr>
<tr>
<td>8&quot; 10 15 Sand-clay</td>
<td>X</td>
</tr>
<tr>
<td>8&quot; 15 20 Gravel-Boulders-Clay</td>
<td>X</td>
</tr>
<tr>
<td>6&quot; 20 32 Gravel-Boulders-Clay</td>
<td>X</td>
</tr>
<tr>
<td>6&quot; 32 34 Gravel</td>
<td>X</td>
</tr>
</tbody>
</table>

RECEIVED

OCT 15 1999

Department of Water Resources
Southeast Region

OCT 2 5 1999

Department of Water Resources

MICROFILED

NOV 3 8 1999

Company Name: Good River Drilling Firm No. 265

Form 238-7 11/97

FORWARD WHITE COPY TO WATER RESOURCES
1. WELL TAG NO. D 00 5 0 4 9 9
   DRILLING PERMIT NO. 853118 appl 906340
   Water Right or Injection Well No.

2. OWNER:
   Name: IDAHO DEQ
   Address: 1445 N Orthodox
   City: Boise  State: ID  Zip: 83706

3. LOCATION OF WELL by legal description:
   You must provide address or Lot, Blk, Sub. or Directions to well.
   Twp: 2 North  or South 
   Rge: 9 East  or West
   Sec: 1/14  or 1/14
   Gov't Lot: Blaine
   County: Blaine
   Lat: 
   Long: Blaine
   Address of Well Site: Lind Park
   City: Hailey

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

5. TYPE OF WORK: check all that apply
   ☐ New Well  ☐ Modify  ☐ Abandonment  ☐ Other
   (Replacement etc.)

6. DRILL METHOD:
   ☐ Air Rotary  ☐ Cable  ☐ Mud Rotary  ☐ Other
   Direct Push

7. SEALING PROCEDURES
   Seal Material: Blastite chips
   From: Z  To: Z
   Weight / Volume: 25 lbs.
   Seal Placement Method: Drill

   Was drive shoe used? ☐ Y ☐ N
   Shoe Depth(s):
   Was drive shoe seal tested? ☐ Y ☐ N
   How?: N/A

8. CASING/LINER:
   Diameter: 3/4
   From: 0  To: 10
   Gauge: 40
   Material: PVC

   Length of Headpipe: 0
   Length of Tailpipe:
   Packer: Y
   LIN Type:

9. PERFORATIONS/SCREENS PACKER TYPE
   Perforation Method: NC/ Stainless pro-pack
   Screen Type & Method of Installation: NC/ Stainless pro-pack

   From: 10  To: 20
   Soil Size: 0.1
   Number: 1
   Diameter: 3/4
   Material: PVC
   Casing: ☐
   Liner: ☐
   Welded: ☐
   Threaded: ☐

10. FILTER PACK
   Filter Material: Blastite chips
   From: Z  To: Z
   Weight / Volume: 25 lbs.
   Placement Method: Drill

11. STATIC WATER LEVEL OR ARTEISIAN PRESSURE:
   Feet below ground: 25
   Artesian pressure: N/A
   Depth flow encountered: N/A

12. WELL TESTS:
   ☐ Pump  ☐ Baller  ☐ Air  ☐ Flowing Artesian
   Yield gpm: 0.25
   Drawdown:
   Pumping Level:
   Time:
   Water Temp: 60 F
   Bottom hole temp: 60 F

13. LITHOLOGIC LOG: (Describe repairs or abandonment)
   Water Quality test or comments:
   Depth first Water Encounter: 12'
   Remarks: Lithology, Water Quality & Temperature
   Y N

14. DRILLER'S CERTIFICATION
   We certify that all minimum well construction standards were complied with at the time the rig was removed.
   Company Name: TEAK Graphics
   Firm No: 663
   Principal Driller:
   Date: 11/7/08
   Driller or Operator II:
   Date: 11/7/08
   Operator I:
   Date: 11/7/08
   Principal Driller and Rig Operator Required.
   Operator 1 must have signature of Driller/Operator II.

FORWARD WHITE COPY TO WATER RESOURCES
**1. WELL TAG NO. D**

DRILLING PERMIT NO. 853 719 appl. 906341

**2. OWNER:**

Name: IDAHO DEQ

Address: 1443 N Orchard

City: Boise State ID Zip 83706

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

You must provide address or Lot, Bk, Sub. or Directions to well.

Twp: 2 North of

Rge: 1B East of

Sec: 7 North 1/4 SE 1/4 SW 1/4

Govt Lot: 1

County: Blaine

Town: Not applicable

Address of Well Site: Ance Park

City: Boise Sub. Name: Heiley

**4. USE:**

- [ ] Domestic
- [ ] Municipal
- [ ] Monitor
- [ ] Irrigation
- [ ] Thermal
- [ ] Injection

**5. TYPE OF WORK:** check all that apply

- [ ] New Well
- [ ] Modify
- [ ] Abandonment
- [ ] Other

**6. DRILL METHOD:**

- [ ] Air Rotary
- [ ] Cable
- [ ] Mud Rotary
- [ ] Other

**7. SEALING PROCEDURES:**

<table>
<thead>
<tr>
<th>Seal Material</th>
<th>From</th>
<th>To</th>
<th>Weight / Volume</th>
<th>Seal Placement Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bentonite chips</td>
<td>8</td>
<td>2</td>
<td>25 lbs.</td>
<td>Pour</td>
</tr>
</tbody>
</table>

Was drive shoe used? [Y/N] Y
Shoe Depth(s): __________

Was drive shoe seal tested? [Y/N] N

How? N/A

**8. CASING/LINER:**

<table>
<thead>
<tr>
<th>Diameter From</th>
<th>To</th>
<th>Gauge</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>2'</td>
<td>0</td>
<td>10</td>
<td>40</td>
</tr>
</tbody>
</table>

Length of Headpipe: __________

Length of Tailpipe: N/A

Packer [Y/N] N Type: __________

**9. PERFORATIONS/SCREENS PACKER TYPE:**

<table>
<thead>
<tr>
<th>Perforation Method</th>
<th>Screen Type &amp; Method of Installation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine</td>
<td>PVC/Stainless steel pack</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Slot Size</th>
<th>Number</th>
<th>Diameter</th>
<th>Casing</th>
<th>Liner</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>18</td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**10. FILTER PACK:**

<table>
<thead>
<tr>
<th>Filter Material</th>
<th>From</th>
<th>To</th>
<th>Weight / Volume</th>
<th>Placement Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>2'</td>
<td>0</td>
<td>10</td>
<td>25 lbs.</td>
<td>Pour</td>
</tr>
</tbody>
</table>

**11. STATIC WATER LEVEL OR ARTESIAN PRESSURE:**

- 10' below ground
- Artesian pressure: N/A lb.
- Depth flow encountered: __________ ft.
- Describe access port or control devices: __________

**12. WELL TESTS:**

<table>
<thead>
<tr>
<th>Yield (gpm)</th>
<th>Downflow</th>
<th>Pumping Level</th>
<th>Flowing Artesian</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 GPM</td>
<td>1/4</td>
<td>1/4</td>
<td>1/4</td>
</tr>
</tbody>
</table>

Water Temp. __________ F
Bottom hole temp. __________ F

Water Quality test or comments: __________

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

<table>
<thead>
<tr>
<th>Bone</th>
<th>From</th>
<th>To</th>
<th>Remarks</th>
<th>Lithology, Water Quality &amp; Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>2'</td>
<td>0</td>
<td>5</td>
<td>Fill trash: Silty gravel</td>
<td></td>
</tr>
</tbody>
</table>

**14. DRILLER'S CERTIFICATION**

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

Company Name: Terralogics

Principal Driller: __________

Date: __________

Driller or Operator I: __________

Date: __________

Operator I: __________

Date: __________

Principal Driller and Rig Operator Required:
Operator I must have signature of Driller/Operator II.

FORWARD WHITE COPY TO WATER RESOURCES
1. WELL TAG NO. D 
DRILLING PERMIT NO. 853272D appl. 906342
Water Right or Injection Well No.

2. OWNER:
Name IDAHo DEQ
Address 145S Orchard
City Boise State ID Zip 83706

3. LOCATION OF WELL by legal description:
You must provide address or Lot, Blk, Sub. or Directions to well.
Twp. 18 North or South
Rge. 9 East or West
Sec. 9 NW 1/4 SE 1/4 SW 1/4
Govt Lot
County Blaine
Formation Fish Lake
Address of well Site
Long: ____________
City Hailey
Lat: ________

4. USE:
□ Domestic □ Municipal □ Monitor □ Irrigation
□ Thermal □ Injection □ Other

5. TYPE OF WORK check all that apply
□ New Well □ Modify □ Abandonment □ Other

6. DRILL METHOD:
□ Air Rotary □ Cable □ Mud Rotary □ Other Direct Push

7. SEALING PROCEDURES
<table>
<thead>
<tr>
<th>Seal Material</th>
<th>From</th>
<th>To</th>
<th>Weight / Volume</th>
<th>Seal Placement Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bentonite Chips</td>
<td>8</td>
<td>12</td>
<td>35 lbs</td>
<td></td>
</tr>
</tbody>
</table>

Was drive shoe used? □ Y □ N Shoe Depth __________
Was drive shoe seal tested? □ Y □ N How? __________

8. CASING/LINER:
<table>
<thead>
<tr>
<th>Diameter</th>
<th>From</th>
<th>To</th>
<th>Gauge</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>8&quot;</td>
<td>0</td>
<td>10</td>
<td>90</td>
<td>PK</td>
</tr>
</tbody>
</table>

Length of Headpipe __________
Length of Tailpipe __________

9. PERFORATIONS/SCREENS PACKER TYPE
Perforation Method: __________
Screen Type & Method of Installation: PVC/Steel/Screen/Grout/Other

10. FILTER PACK

11. STATIC WATER LEVEL OR ARTEZIAN PRESSURE:
H ft. below ground
Artesian pressure __________
Depth flow encountered __________
Describe access port or control devices:

12. WELL TESTS:
<table>
<thead>
<tr>
<th>Yield gals/min</th>
<th>Drawdown</th>
<th>Pumping Level</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>___________</td>
<td>________</td>
<td>___________</td>
<td>________</td>
</tr>
</tbody>
</table>

Water Temp. 50°F
Bottom hole temp. 60°F
Water Quality test or comments:

13. LITHOLOGIC LOG: (Describe repairs or abandonment)

14. DRILLER’S CERTIFICATION
We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name __________
Principal Driller __________
Date 11/7/08

Prin. Driller and Rig Operator Required
Operator I must have signature of Driller/Operator II.

RECEIVED
DEPT. OF WATER RESOURCES
SOUTHERN REGION
NOV 10 2008

Completed Depth __________
(Measurable)

Date: Started 10-10-08 Completed 10-16-08
12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 6    Static water level (ft) 4
Water temp. (°F)    Bottom hole temp. (°F)  
Describe access port: 7" Flush mount well cap

Well test:

<table>
<thead>
<tr>
<th>Drawdown (ft)</th>
<th>Discharge or yield (gpm)</th>
<th>Test duration (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>3</td>
<td>10</td>
</tr>
</tbody>
</table>

Water quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

<table>
<thead>
<tr>
<th>Bore D. (in)</th>
<th>From (ft)</th>
<th>To (ft)</th>
<th>Remarks, lithology or description of repairs or abandonment, water temp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>17</td>
<td>12</td>
<td>X</td>
</tr>
</tbody>
</table>

Water

<table>
<thead>
<tr>
<th>Y</th>
<th>N</th>
</tr>
</thead>
</table>

14. DRILLER'S CERTIFICATION:

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

Company Name: Direct Push Services, Inc. Co. No. 853

*Principal Driller* Signature Date: 6/27/04

*Driller* Date

*Operator II* Date

Operator I Date

*Signature of Principal Driller and rig operator are required.*
WELL TAG NO. D 00507916
Drilling Permit No. 8567740 appl 9081916
Water right or injection well #

OWNER: Wood River Land Trust

WELL LOCATION:

Two: North □ or South □ One: □ East □ or West □

Gov/Lot County

Addr: 119 E Bullion Street City: Hailey

State Zip: ID 83333

USE:

□ Domestic □ Municipal □ Monitor □ Irrigation □ Thermal □ Injection □ Other

TYPE OF WORK:

□ New well □ Replacement well □ Modify existing well □ Abandonment □ Other

DRILL METHOD:

□ Air Rotary □ Mud Rotary □ Cable □ Other □ Direct Push

SEALING PROCEDURES:

Seal material From (ft) To (ft) Quantity (lbs or ft) Placement method/ procedure

Cement 0 6 60 lbs Pump 1/2 nd

Casing LINER:

Diameter (inches) From (ft) To (ft) Gauge Schedule Material Casing Liner Threaded Welded

7 10 0 40 PVC □ □ □ □

Was drive shoe used? □ Y □ N Shoe Depth(s)

PERFORATIONS/SCREENS:

Perforations □ Y □ N Method □ Machine Slotted □ Other

Manufactured screen □ Y □ N Type □ Machine Slotted □ Other

Method of Installation □ Through Pipe □ Other

Porcelain 7 0 □ □ □ □

Number of Slits Shaped □ □ □ □

Flowing Artesian:

Flowing Artesian? □ Y □ N Artesian Pressure (PSIG): ___________

Describe control device

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft): □ □ 6 Static water level (ft): □ □ 6 Bottom hole temp. (°F): □ □ 6

Describe access port: 7' Flush mounted well cap

Drawdown (feet) Change or yield (gpm) Test duration (minutes) Pump Bailer Air Flowing elevation

WATER QUALITY TEST or COMMENTS:

LITHOLOGIC LOG and/or repairs or abandonment:

Y N Remarks, lithology or description of repairs or abandonment, water temp.

1.18 □ □ □ Parking lot gravel □ □ 06 X

1 0.5 □ □ □ Sandy gravel/ yellow sand □ □ 0.5

1.10 □ □ □ 10.5% fines □ □ 0.6

Date Started: 6/7/09 Date Completed: 6/22/09

DRILLER'S CERTIFICATION:

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

Company Name: Direct Push Services, Inc. Co. No. 653

*Principal Driller: Sue Aldy Date: 6/22/09

*Operator II: Date:

*Operator I: Date:

*Driller and rig operator are required,
STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Name: Frank Bashite
Address: Trails End Sub. Hailey, ID

1. WELL OWNER

2. NATURE OF WORK
   - New well
   - Deepened
   - Replacement
   - Abandoned

3. PROPOSED USE
   - Domestic
   - Irrigation
   - Test
   - Municipal
   - Industrial
   - Stock
   - Waste Disposal or Injection
   - Other

4. METHOD DRILLED
   - Rotary
   - Air
   - Hydraulic
   - Reverse rotary
   - Cable
   - Dug
   - Other

5. WELL CONSTRUCTION
   - Casing schedule: Steel
   - Thickness:
     - 10.00 inches
     - 12.00 inches
     - 14.00 inches
     - 16.00 inches
   - Diameter:
     - 10.00 inches
     - 12.00 inches
     - 14.00 inches
     - 16.00 inches
   - Perforations:
     - Number of perforations
     - Feet from top
     - Feet to bottom
   - Well screen installed: Yes
   - Manufacturer's name:
     - Type
     - Diameter
     - Slot size
     - Model No.
   - Gravel packed: Yes
   - Gravel size:
   - Packed from:
   - Surface seal depth:
   - Material used in seal:
     - Cement
     - Bentonite
     - Puddling clay
     - Slurry pit
   - Splicing procedure:
   - Method of joining casing:
     - Threaded
     - Welded
     - Solvent
     - Cemented between strata
   - Describe access port:

6. LOCATION OF WELL
   - Sketch map location must agree with written location.

7. WATER LEVEL
   - Static water level: 421 feet below land surface.
   - Flowing:
     - Yes
     - No
   - Artesian closed-in pressure: p.s.i.
   - Controlled by:
     - Valve
     - Cap
     - Plug
   - Temperature:
     - 60°F
   - Quality:
     - Describe extension or temperature zones below:

8. WELL TEST DATA
   - Pumping Level:
     - Pressure
     - Hours Pumped:
     - Discharge G.P.M.
     - Pumping Level:

9. LITHOLOGIC LOG
   - Bore Log:
     - Depth:
       - From
       - To
     - Material:
     - Water:


11. DRILLERS CERTIFICATION
    - We certify that all minimum well construction standards were
      complied with at the time the rig was removed.

Firm Name: Wood River Drilling and Pump
Address: 1001 N. 9 Mile Road, Hailey, ID
Signed by (Firm Official):

Operator:

USE ADDITIONAL SHEETS IF NECESSARY - FORWARD THE WHITE COPY TO THE DEPARTMENT
WELL DRILLER'S REPORT

1. WELL OWNER
Name: John Adams
Address: Hailey, Idaho
Owner's Permit No.: 

2. NATURE OF WORK
☐ New well  ☐ Deepened  ☐ Replacement
☐ Abandoned (describe method of abandoning)

3. PROPOSED USE
☐ Domestic  ☐ Irrigation  ☐ Test  ☐ Other (specify type)
☐ Municipal  ☐ Industrial  ☐ Stock  ☐ Waste Disposal or Injection

4. METHOD DRILLED
☐ Cable  ☐ Rotary  ☐ Dug  ☐ Other

5. WELL CONSTRUCTION
Diameter of hole: 6 inches  Total depth: 43 feet
Casing schedule: ☐ Steel  ☐ Concrete
Thick 8.250 inches  6 inches  1 foot  43 feet

6. LITHOLOGIC LOG

<table>
<thead>
<tr>
<th>Depth</th>
<th>Material Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2'</td>
<td>Top soil w/ rocks</td>
</tr>
<tr>
<td>4'</td>
<td>Sandy clay</td>
</tr>
<tr>
<td>8'</td>
<td>Sandy clay</td>
</tr>
<tr>
<td>10'</td>
<td>Gravel</td>
</tr>
<tr>
<td>35'</td>
<td>Clay w/ sand</td>
</tr>
<tr>
<td>40'</td>
<td>Gravel</td>
</tr>
</tbody>
</table>

7. WATER LEVEL
Static water level: 10 feet below land surface
Flowing? Yes ☐ No ☐
Temperature: F. Quality: Good
Artesian closed-in pressure: p.s.i.
Controlled by: ☐ Valve  ☐ Cap  ☐ Plug

8. WELL TEST DATA
☐ Pump  ☐ Bailier  ☐ Other
Discharge G.P.M.: 40
Draw Down: 15 ft.
Hours Pumped: 3

9. LITHOLOGIC LOG

<table>
<thead>
<tr>
<th>Depth</th>
<th>Material Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2'</td>
<td>Top soil w/ rocks</td>
</tr>
<tr>
<td>4'</td>
<td>Sandy clay</td>
</tr>
<tr>
<td>8'</td>
<td>Sandy clay</td>
</tr>
<tr>
<td>10'</td>
<td>Gravel</td>
</tr>
<tr>
<td>35'</td>
<td>Clay w/ sand</td>
</tr>
<tr>
<td>40'</td>
<td>Gravel</td>
</tr>
</tbody>
</table>

10. Work started: 6/7/76  finished: 6/8/76

11. DRILLERS CERTIFICATION
Firm Name: Ken Smith Well Drilling
Address: Box 1165 Hailey, Idaho 7/4/76
Signed by (Firm Official),
Operation: BILL HAMLINGS

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

DEC 9 1976

RECEIVED

Department of Water Administration
State of Idaho
Southern District Office

-89-
Report of Well Driller
State of Idaho
Department of Reclamation

State law requires that this report shall be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

**WELL OWNER:**
- **Name:** WA Lewis
- **Address:** 50-7 Elmwood Acre

**Owner's Permit No.:**

**Nature of Work (check):** Replacement well

**New Well** ☐ Deepened ☐ Abandoned ☐

**Water is to be used for:** Domestic

**Method of Construction:** Rotary ☐ Cable ☐ Dug ☐ Other ☐

(Explain)

**Casing Schedule:** Threaded ☐ Welded ☐

- "Diam. from" ft. to ft.
- "Diam. from" ft. to ft.
- "Diam. from" ft. to ft.

**Thickness of casing:** 2.00

**Material:** Steel ☐ concrete ☐ wood ☐ other ☐

(Explain)

**Perforated?** Yes ☐ No ☐

**Type of perforator used:**

**Size of perforations:** " by "

- perforations from ft. to ft.
- perforations from ft. to ft.
- perforations from ft. to ft.

**Was Screen Installed?** Yes ☐ No ☐

**Manufacturer's name:**

**Type** ☐ Model No.:

**Diam. Slot size:** Set from ft. to ft.

**Diam. Slot size:** Set from ft. to ft.

**Constitution:** Well gravel packed? Yes ☐ No ☐

- size of gravel
- Gravel placed from ft. to ft. Surface seal provided? Yes ☐ No ☐
- To what depth? ft.

**Material used in seal:**

**Did any strata contain unusable water?** Yes ☐ No ☐

**Type of water:**

**Depth of strata:** ft.

- Method of sealing strata off:

**Surface casing used?** Yes ☐ No ☐

**Cemented in place?** Yes ☐ No ☐

**Locate well in section:**

- **Sec.:**
- **T.:**
- **R.:**
- **W.:**

**Location of Well:** County

- **Blaine**

- **SW 1/4 Sec. 7, T. 2 N., R. 4 E.**

- **Use other side for additional remarks**

**USGS**

- **Sept 2, 1968**

**Received**

- **Sep 2, 1968**

**Work started:**

- **Sep 2, 1968**

**Work finished:**

- **Dec 27, 1968**

**Well Driller's Statement:** This well was drilled under my supervision and this report is true to the best of my knowledge.

- **Name:**
- **Address:**

**Signed by:**

- **License No.:**
- **Date:** 27 Dec 1968

- **USGS**

- **90-**
USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Reclamation

WELL DRILLER'S REPORT

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

1. WELL OWNER

Name  Alva Temple
Address  Barley, Idaho
Owner's Permit No.

2. NATURE OF WORK

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

3. PROPOSED USE

☐ Domestic  ☐ Irrigation  ☐ Test
☐ Municipal  ☐ Industrial  ☐ Stock

4. METHOD DRILLED

☐ Cable  ☐ Rotary  ☐ Dug  ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches  Total depth 33 feet
Casing schedule:  ☐ Steel  ☐ Concrete

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Diameter</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>inches</td>
<td>inches</td>
<td>feet</td>
<td>feet</td>
</tr>
</tbody>
</table>

Was a packer or seal used?  ☐ Yes  ☐ No
Perforated?  ☐ Yes  ☐ No
How perforated?  ☐ Factory  ☐ Knife  ☐ Torch
Size of perforation  inches by inches

Was a 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?  ☐ Yes  ☐ No  To what depth feet
Material used in seal  ☐ Cement grout  ☐ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.

County  31 Idaho

8. WELL TEST DATA

☐ Pump  ☐ Bailer  ☐ Other

<table>
<thead>
<tr>
<th>Discharge G.P.M.</th>
<th>Draw Down</th>
<th>Hours Pumped</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 G.P.M.</td>
<td>12 ft.</td>
<td>1</td>
</tr>
</tbody>
</table>

9. LITHOLOGIC LOG

<table>
<thead>
<tr>
<th>Hole</th>
<th>Depth</th>
<th>Material</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>Top soil</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>Small boulders &amp; gravel</td>
<td>x</td>
</tr>
<tr>
<td>0</td>
<td>11</td>
<td>Small boulders &amp; gravel</td>
<td>x</td>
</tr>
<tr>
<td>0</td>
<td>29</td>
<td>Gravel &amp; sand</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>31</td>
<td>Gravel &amp; clay</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>33</td>
<td>Gravel &amp; sand</td>
<td>x</td>
</tr>
</tbody>
</table>


11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

Driller's or firm's Name
Address

Signed by  Date  26 June 1970
REPORT OF WELL DRILLER
State of Idaho

State law requires that this report shall be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

WELL OWNER:
Name: CALVIN J. ROBERTSON
Address: HAILEY, IDAHO

Owner's Permit No.

NATURE OF WORK (check): Replacement well [X]  New well [ ]  Abandoned [ ]

Water is to be used for: DOMESTIC [X]  Other [ ]

METHOD OF CONSTRUCTION: Rotary [X]  Cable [ ]

Dug [ ]  Other [ ]  (explain) [ ]

CASING SCHEDULE: Threaded [X]  Welded [ ]

6 1/2" Diam. from 0 ft. to 50 ft.
6 1/2" Diam. from 50 ft. to 100 ft.
6 1/2" Diam. from 100 ft. to 150 ft.
6 1/2" Diam. from 150 ft. to 200 ft.

Thickness of casing: 2" Material: Steel [X]  concrete [ ]  wood [ ]  other [ ]

(explain) [ ]

PERFORATED? Yes [X]  No [ ]

Type of perforator used: MILLS [ ]

Size of perforations: 1/8" by 2" [ ]

perforations from 30 ft. to 50 ft.
perforations from 50 ft. to 70 ft.
perforations from 70 ft. to 90 ft.
perforations from 90 ft. to 110 ft.

WAS SCREEN INSTALLED? Yes [X]  No [ ]

Manufacturer's name: [ ]

Type [ ]  Model No. [ ]

Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

CONSTRUCTION: Well gravel packed? Yes [X]  No [ ]

No. [ ] size of gravel [ ]

Gravel placed from [ ] ft. to [ ] ft. Surface seal provided? Yes [X]  No [ ]

To what depth? [ ] ft. Material used in seal: [ ]

Did any strata contain unusable water? Yes [ ]  No [X]

Type of water: [ ]

Depth of strata [ ] ft. Method of sealing strata off: [ ]

Surface casing used? Yes [X]  No [ ]

Cemented in place? Yes [X]  No [ ]

Locate well in section [ ]

LOCATION OF WELL: County [ ]  Township [ ]  Range [ ]  Section [ ]

TAX LOT [ ]

Use other side for additional remarks
REPORT OF WELL DRILLER
State of Idaho

State law requires that this report shall be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

WELL OWNER:
Name: B.C. EVELY
Address: HAILEY, IDAHO

Owner's Permit No. ____________________________

NATURE OF WORK (check): Replacement well X
New well X
Deepened X
Abandoned X

Water is to be used for: DOMESTIC

METHOD OF CONSTRUCTION: Rotary X
Cable X
Dug X
Other X (explain)

CASING SCHEDULE: Threaded X
Welded X

Diam. from 0 ft. to 10 ft. X
Diam. from 10 ft. to 20 ft. X
Diam. from 20 ft. to 30 ft. X
Diam. from 30 ft. to 40 ft. X

Thickness of casing: 0.25 X
Material: X
Steel X
Concrete X
Wood X
Other X (explain)

PERFORATED? Yes X
No X
Type of perforator used:

Size of perforations: __ by __ feet X
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

WAS SCREEN INSTALLED? Yes X
No X

Manufacturer's name:

Type: X
Model No.:
Diam. X
Slot size set from ft. to ft.

CONSTRUCTION: Well gravel packed? Yes X
No X
X size of gravel placed from ft. to ft.
Surface seal provided? Yes X
No X
To what depth? ft.
Material used in seal: GROUTED WITH CLAY WHILE PUTTING CASING DOWN

DID ANY STRATA CONTAIN UNSALUBRIous WATER? Yes X
No X
Type of water:

Depth of strata __ ft.
Method of sealing strata off:

Surface casing used? Yes X
No X
Cemented in place? Yes X
No X
Locate well in section

WORK OF WELL:

LOCATION OF WELL: County ELAINE

Use other side for additional remarks

USGS

- 93 -
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.

1. WELL OWNER

Name: Paul O'Connell
Address: 133 Little India Dr., 83616
Owner's Permit No.: 37-88-5-002

2. NATURE OF WORK

☑ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

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 XX Inches Diameter 6 Inches + 1 foot 38 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: Inches by Inches

number from to feet feet
perfotations feet feet
perfotations feet feet

Well screen installed? ☑ Yes ☐ No
Manufacturer's name:
Type:

6. LOCATION OF WELL

Sketch map location must agree with written location.

County: Blaine
Subdivision Name:
Lot No.: Block No.:

6. USE ADDITIONAL SHEETS IF NECESSARY – FORWARD THE WHITE COPY TO THE DEPARTMENT
Attachment 4 – Water Rights to be Used for Mitigation
WATER RIGHT NUMBER: 37-22773

Owner Type  Name and Address
Original Owner  WOOD RIVER VALLEY ASSOCIATES
2710 SUNRISE RD
BOISE, ID  83705
(208)344-8502

Previous Owner  EMB-HAILEY LP A CALIFORNIA LTD PTNR
9533 W PICO BLVD STE A
LOS ANGELES, CA  90035
(213)271-2699

Current Owner  CITY OF HAILEY
115 S MAIN ST #H
HAILEY, ID  83333
(208)788-4221

Priority Date: 05/01/1888
Basis: Deed
Status: Active

Source  Tributary
BIG WOOD RIVER  MALAD RIVER

Beneficial Use  From  To  Diversion Rate  Annual Volume
IRRIGATION  04/15  to  10/31  0.19 CFS

Total Diversion: 0.19 CFS

Location of Point(s) of Diversion
BIG WOOD RIVER  Sec. 20,  Twp 03N,  Rge 18E, B.M.
         SW1/4NW1/4
         BLAINE County

Place of Use
IRRIGATION

<table>
<thead>
<tr>
<th>Twp</th>
<th>Rge</th>
<th>Sec</th>
<th>NE</th>
<th>NW</th>
<th>SW</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>02N</td>
<td>18E</td>
<td>4</td>
<td>3.1</td>
<td>3.4</td>
<td>6.8</td>
<td>7.4</td>
</tr>
</tbody>
</table>

Total Acres: 22.8

Conditions of Approval:
1. E55  Right Nos. 37-22773, 37-22774, 37-22775 and 37-22776 are limited to the irrigation of a combined total of 22.8 acres in a single irrigation season.
2. This right is a split from former right 37-21811
3. The rights listed below, shall provide no more than 3.5 afa per acre at the field headgate for irrigation of the lands in the place of use whenever sprinkler methods of irrigation are used. Combined Right Nos. 37-22773, 37-22774, 37-22775 and 37-22776.
4. C18  This partial decree is subject to such general provisions necessary for the definition of the rights or for the efficient administration of the water rights as may be ultimately determined by the Court at a point in time no later than the entry of a final unified decree.  Section 42-1412(6), Idaho Code.
5. G05  Water diverted from Headgate #22 delivered through Hiawatha Canal.
6. The diversion rate of this right is .194 cfs.

Remarks:

Comments:
1. dsmith 8/23/2012 Ownership Change  
Comment: This water right split from 37-21811
2. dsmith 8/24/2012 12:19:03 PM POU  
Comment: Updated Shape
3. dsmith 8/24/2012 12:21:54 PM POD  
Comment: Updated Shape

Dates and Other Information:
Licensed Date: 8/30/2011
Decree Date: 8/30/2011
Enlargement Use Priority Date:
Enlargement Statute Priority Date:
State or Federal: S
Owner Name Connector:
Water District Number:
Generic Max Rate Per Acre:
Generic Max Volume Per Acre:
Decree Defendant:
Decree Plaintiff:
Civil Case Number: 36576
Judicial District: FIFTH
Swan Falls Trust or Nontrust:
Swan Falls Dismissed:
DLE Act Number:
Carey Act Number:
Mitigation Plan: False

Combined Use Limits:

<table>
<thead>
<tr>
<th>Rate</th>
<th>Volume</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>22.8</td>
<td></td>
</tr>
</tbody>
</table>


Water Supply Bank:
IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report 37-22774

WATER RIGHT NUMBER: 37-22774

<table>
<thead>
<tr>
<th>Owner Type</th>
<th>Name and Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous Owner</td>
<td>EMB-HAILEY LP A CALIFORNIA LTD PTNR 9533 W PICO BLVD STE A LOS ANGELES, CA 90035 (213)271-2699</td>
</tr>
<tr>
<td>Original Owner</td>
<td>WOOD RIVER VALLEY ASSOCIATES 2710 SUNRISE RIM RD BOISE, ID 83705 (208)344-8502</td>
</tr>
<tr>
<td>Current Owner</td>
<td>CITY OF HAILEY 115 S MAIN ST #H HAILEY, ID 83333 (208)788-4221</td>
</tr>
</tbody>
</table>

Priority Date: 09/18/1885
Basis: Decreed
Status: Active

Source: BIG WOOD RIVER
Tributary: MALAD RIVER

<table>
<thead>
<tr>
<th>Beneficial Use</th>
<th>From</th>
<th>To</th>
<th>Diversion Rate</th>
<th>Annual Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRRIGATION</td>
<td>04/15</td>
<td>10/31</td>
<td>0.20 CFS</td>
<td></td>
</tr>
</tbody>
</table>

Total Diversion: 0.20 CFS

Location of Point(s) of Diversion
BIG WOOD RIVER SW1/4NW1/4 Sec. 20, Twp 03N, Rge 16E, B.M.
BLAINE County

Place of Use
IRRIGATION

<table>
<thead>
<tr>
<th>Twp</th>
<th>Rge</th>
<th>Sec</th>
<th>NE</th>
<th>NW</th>
<th>SW</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>02N</td>
<td>18E</td>
<td>4</td>
<td>NE</td>
<td>NW</td>
<td>SW</td>
<td>SE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3.1</td>
<td>3.4</td>
<td>8.0</td>
<td>7.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>L 3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Acres: 22.8

Conditions of Approval:
1. The diversion rate of this right is .195 cfs.
2. This right is a split from former right 37-21813.
3. The rights listed below, shall provide nor more than 3.5 afa per acre at the field headgate for irrigation of the lands in the place of use whenever sprinkler methods of irrigation are used. Combined Right Nos. 37-22773, 37-22774, 37-22775 and 37-22776.
4. **C18** This partial decree is subject to such general provisions necessary for the definition of the rights or for the efficient administration of the water rights as may be ultimately determined by the Court at a point in time no later than the entry of a final unified decree. Section 42-1412(5), Idaho Code.

5. **E55** Right Nos. 37-22773, 37-22774, 37-22775 and 37-22776 are limited to the irrigation of a combined total of 22.8 acres in a single irrigation season.

6. **G05** Water diverted from Headgate #22 delivered through Hiawatha Canal.

**Remarks:**

**Comments:**

1. dsmith 8/23/2012 Ownership Change  
Comment: Split from 337-21813

2. dsmith 8/24/2012 1:17:51 PM POD  
Comment: Updated Shape

3. dsmith 8/24/2012 1:22:20 PM POU  
Comment: Updated Shape

**Dates and Other Information:**

- Licensed Date: 
- Decreed Date: 8/30/2010
- Enlargement Use Priority Date: 
- Enlargement Statute Priority Date: 
- State or Federal: S
- Owner Name Connector: 
- Water District Number: 
- Generic Max Rate Per Acre: 
- Generic Max Volume Per Acre: 
- Decree Defendant: 
- Decree Plaintiff: 
- Civil Case Number: 39576
- Judicial District: FIFTH
- Swan Falls Trust or Nontrust: 
- Swan Falls Dismissed: 
- DLE Act Number: 
- Carey Act Number: 
- Mitigation Plan: False

**Combined Use Limits:**

<table>
<thead>
<tr>
<th>Rate</th>
<th>Volume</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>22.8</td>
</tr>
</tbody>
</table>


**Water Supply Bank:**
IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report 37-22775

WATER RIGHT NUMBER: 37-22775

<table>
<thead>
<tr>
<th>Owner Type</th>
<th>Name and Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original Owner</td>
<td>WOOD RIVER VALLEY ASSOCIATES</td>
</tr>
<tr>
<td></td>
<td>2710 SUNRISE RIM RD</td>
</tr>
<tr>
<td></td>
<td>BOISE, ID 83705</td>
</tr>
<tr>
<td></td>
<td>(208) 344-8502</td>
</tr>
<tr>
<td>Previous Owner</td>
<td>EMB-HAILEY LP A CALIFORNIA LTD PTNR</td>
</tr>
<tr>
<td></td>
<td>9533 W PICO BLVD STE A</td>
</tr>
<tr>
<td></td>
<td>LOS ANGELES, CA 90035</td>
</tr>
<tr>
<td></td>
<td>(213) 271-2699</td>
</tr>
<tr>
<td>Current Owner</td>
<td>CITY OF HAILEY</td>
</tr>
<tr>
<td></td>
<td>115 S MAIN ST #H</td>
</tr>
<tr>
<td></td>
<td>HAILEY, ID 83333</td>
</tr>
<tr>
<td></td>
<td>(208) 788-4221</td>
</tr>
</tbody>
</table>

Priority Date: 06/30/1884
Basis: Decreed
Status: Active

Source | BIG WOOD RIVER
Tributary | MALAD RIVER

<table>
<thead>
<tr>
<th>Beneficial Use</th>
<th>From</th>
<th>To</th>
<th>Diversion Rate</th>
<th>Annual Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRRIGATION</td>
<td>04/15</td>
<td>10/31</td>
<td>0.39 CFS</td>
<td></td>
</tr>
</tbody>
</table>

Total Diversion: 0.39 CFS

Location of Point(s) of Diverison
BIG WOOD RIVER
BLAINE County
SW1/4 NW1/4
Sec. 20, Twp 03N, Rge 18E, B.M.

Place of Use
IRRIGATION

<table>
<thead>
<tr>
<th>Twp</th>
<th>Rge</th>
<th>Sec</th>
<th>NE</th>
<th>NW</th>
<th>SW</th>
<th>SE</th>
<th>NE</th>
<th>NW</th>
<th>SW</th>
<th>SE</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>02N</td>
<td>18E</td>
<td>4</td>
<td>3.1</td>
<td>3.4</td>
<td>8.9</td>
<td>7.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>22.8</td>
</tr>
</tbody>
</table>

Total Acres: 22.8

Conditions of Approval:

1. The rights listed below, shall provide nor more than 3.5 afa per acre at the field headgate for irrigation of the lands in the place of use whenever sprinkler methods of irrigation are used. Combined Right Nos. 337-22773, 37-22774, 37-22775 and 37-22776.

2. G05 Water diverted from Headgate #22 delivered through Hiawatha Canal.

3. E55 Right Nos. 37-22773, 37-22774, 37-22775 and 37-22776 are limited to the irrigation of a combined total of 22.8 acres in a single irrigation season.
4. **C18** This partial decree is subject to such general provisions necessary for the definition of the rights or for the efficient administration of the water rights as may be ultimately determined by the Court at a point in time no later than the entry of a final unified decree. Section 42-1412(6), Idaho Code.

5. The diversion rate of this right is .387 cfs.

6. This right is a split from former right 37-21815.

**Remarks:**

**Comments:**
1. **dsmith** 8/24/2012 Ownership Change
   Comment: Split from 37-21815

2. **dsmith** 8/24/2012 1:39:15 PM POU
   Comment: Updated Shape

3. **dsmith** 8/24/2012 1:40:12 PM POD
   Comment: Updated Shape

**Dates and Other Information:**
- Licensed Date: 
- Decreed Date: 8/30/2010
- Enlargement Use Priority Date:
- Enlargement Statute Priority Date:
- State or Federal: S
- Owner Name Connector:
- Water District Number:
- Generic Max Rate Per Acre:
- Generic Max Volume Per Acre:
- Decree Defendant:
- Decree Plaintiff:
- Civil Case Number: 39576
- Judicial District: FIFTH
- Swan Falls Trust or Nontrust: 
- Swan Falls Dismissed: 
- DLE Act Number: 
- Carey Act Number: 
- Mitigation Plan: False

**Combined Use Limits:**

<table>
<thead>
<tr>
<th>Rate</th>
<th>Volume</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td>22.8</td>
</tr>
</tbody>
</table>


**Water Supply Bank:**
IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report 37-22776

WATER RIGHT NUMBER: 37-22776

Owner Type: Name and Address
Original Owner: WOOD RIVER VALLEY ASSOCIATES
               2710 SUNRISE RIM RD
               BOISE, ID 83705
               (208)344-8502

Previous Owner: EMB-HAILEY LP A CALIFORNIA LTD PTNR
                9533 W PICO BLVD STE A
                LOS ANGELES, CA 90035
                (213)271-2699

Current Owner: CITY OF HAILEY
               115 S MAIN ST #H
               HAILEY, ID 83333
               (208)788-4221

Priority Date: 03/24/1883
Basis: Decreed
Status: Active

Source: BIG WOOD RIVER
Tributary: MALAD RIVER

Beneficial Use: From To Diversion Rate Annual Volume
IRRIGATION 04/15 to 10/31 0.23 CFS

Total Diversion: 0.23 CFS

Location of Point(s) of Diversion
BIG WOOD RIVER SW1/4NW1/4 Sec. 20, Twp 03N, Rge 18E, B.M.
BLAINE County

Place of Use
IRRIGATION

<table>
<thead>
<tr>
<th>Twp Rge Sec</th>
<th>NE</th>
<th>NW</th>
<th>SW</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>02N 18E 4</td>
<td>3.1</td>
<td>3.4</td>
<td>8.9</td>
<td>7.4</td>
</tr>
</tbody>
</table>

Total Acres: 22.8

Conditions of Approval:
1. The diversion rate of this right is .235 cfs.
2. The rights listed below, shall provide nor more than 3.5 afa per acre at the field headgate for irrigation of the lands in the place of use whenever sprinkler methods of irrigation are used. Combined Right Nos. 37-22773, 37-22774, 37-22775 and 37-22776.
3. C1B This partial decree is subject to such general provisions necessary for the definition of the rights or for the efficient administration of the water rights as may be ultimately determined by the Court at a point in time no later than the entry of a final unified decree. Section 42-1412(6), Idaho Code.

4. This right is a split from former right 37-21817.

5. E55 Right Nos. 37-22773, 37-22774, 37-22775 and 37-22776 are limited to the irrigation of a combined total of 22.8 acres in a single irrigation season.

6. G05 Water diverted from Headgate #22 delivered through Hiawatha Canal.

Remarks:

Comments:
1. dsmith 8/24/2012 Ownership Change
   Comment: Split from 37-21817

2. dsmith 8/24/2012 1:42:50 PM POD
   Comment: Updated Shape

3. dsmith 8/24/2012 1:42:00 PM POU
   Comment: Updated Shape

Dates and Other Information:

Licensed Date: 8/30/2010
Decreed Date: 8/30/2010
Enlargement Use Priority Date:
Enlargement Statute Priority Date:
State or Federal: S
Owner Name Connector:
Water District Number:
Generic Max Rate Per Acre:
Generic Max Volume Per Acre:
Decree Defendant:
Decree Plaintiff:
Civil Case Number: 39576
Judicial District: FIFTH
Swan Falls Trust or Nontrust:
Swan Falls Dismissed:
DLE Act Number:
Carey Act Number:
Mitigation Plan: False

Combined Use Limits:

<table>
<thead>
<tr>
<th>Rate</th>
<th>Volume</th>
<th>Acres</th>
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</thead>
<tbody>
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</tbody>
</table>


Water Supply Bank:
Idaho Department of Water Resources

Water Right
37-22773
37-22774
37-22775
37-22776

(IRRIGATION)

Point of Diversion
Place of Use

State Outline
Townships
PLS Sections
Quarter Quarters

Blaine County
IDWR Basin 37

Prepared by Smith, Danni
On August 24, 2012
2009 Aerial Photography

Owner: City Of Hailey
NOTE: Only one owner is listed. There may or may not be more than this in the IDWR database.