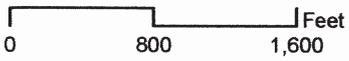
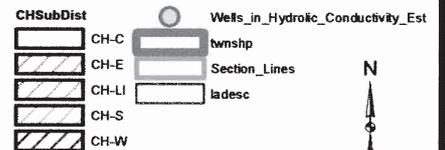


Appendix 1:  
Well Driller's Logs



### CITY OF KETCHUM SOUTHERN GATEWAY WATER STUDY NAIP 2011 AERIAL







USE TYPEWRITER OR BALL POINT PEN

State of Idaho  
Department of Water Administration  
**WELL DRILLER'S REPORT**

Location Corrected by IDWR To:  
T04N R18E Sec. 31 SENWSE  
By: mciscell 2012-10-10

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

**1. WELL OWNER**  
Name EXAMINER REALTY CORPORATION  
Address Twin Falls Idaho  
Owner's Permit No. 37-7112

**7. WATER LEVEL**  
Static water level 14' 6" feet below land surface  
Flowing?  Yes  No G.P.M. flow \_\_\_\_\_  
Temperature \_\_\_\_\_ ° F. Quality \_\_\_\_\_  
Artesian closed-in pressure \_\_\_\_\_ p.s.i.  
Controlled by  Valve  Cap  Plug

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

**8. WELL TEST DATA**  
 Pump  Bailer  Other  
Discharge G.P.M. Approx 500 Draw Down to 17'3" Hours Pumped 5

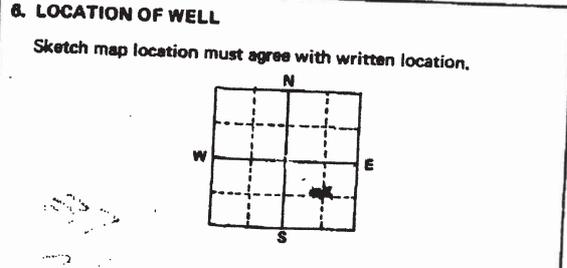
**3. PROPOSED USE**  
 Domestic  Irrigation  Test  
 Municipal  Industrial  Stock

**9. LITHOLOGIC LOG** 39770

Hole Diam.	Depth		Material	Water	
	From	To		Yes	No
	0	3	Sand & Gravel		
	3	13	Course Gravel, Clay & Boulders		
	13	24	Clay course gravel & sand		
	24	52	Medium gravel sand clay		
	52	56	Yellow clay		
	56	80	Cracked black rock with clay seams		
	80	88	Rock clay Hard		

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

**5. WELL CONSTRUCTION**  
Diameter of hole 16 inches Total depth 88 feet  
Casing schedule:  Steel  Concrete  
Thickness 250 inches 20 inches From +1 feet To -19'8" feet  
312 inches 16 inches +2 feet -78'7" feet  
\_\_\_\_\_ inches \_\_\_\_\_ inches \_\_\_\_\_ feet \_\_\_\_\_ feet  
\_\_\_\_\_ inches \_\_\_\_\_ inches \_\_\_\_\_ feet \_\_\_\_\_ feet  
\_\_\_\_\_ inches \_\_\_\_\_ inches \_\_\_\_\_ feet \_\_\_\_\_ feet  
Was a packer or seal used?  Yes  No  
Perforated?  Yes  No  
How perforated?  Factory  Knife  Torch  
Size of perforation 2 inches by 3 1/2 inches  
Number 64 perforations From -24 feet To -52 feet  
\_\_\_\_\_ perforations \_\_\_\_\_ feet \_\_\_\_\_ feet  
\_\_\_\_\_ perforations \_\_\_\_\_ feet \_\_\_\_\_ feet  
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 20 feet  
Material used in seal  Cement grout  Puddling clay



County BLAINE  
NE 4 SE 4 Sec. 31 T. 4 N./S. R. 18E E/W

**10.** Work started 9/16/71 finished 11-3-71

**11. DRILLER'S CERTIFICATION**  
This well was drilled under my supervision and this report is true to the best of my knowledge.  
SMITH DRILLING & PUMP CO., INC. 11  
Driller's or Firm's Name Number  
365 West Main Jerome, Idaho 83338  
Address  
Signed By S. J. P. Atkins 11-8-71  
Date

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

262032



USE TYPEWRITER OR BALL POINT PEN

State Department of Water Resources

RECEIVED

RECEIVED

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.

DEC 9 1976

JUL 8 1976

1. WELL OWNER  
 Name Charles Wister  
 Address Box 951 Sun Valley, Idaho  
 Owner's Permit No. \_\_\_\_\_

Department of Water Resources  
 Southern District Office

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

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

8. WELL TEST DATA  
 Pump  Bailer  Other

Discharge G.P.M.	Draw Down	Hours Pumped
40	5'	1

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

9. LITHOLOGIC LOG 033816

Hole Diam.	Depth		Material	Water	
	From	To		Yes	No
8"	0	2	Top soil		X
8"	2	10	Sand and gravel	X	
8"	10	18	Gravel set in clay	X	
6"	18	30	Gravel set in clay	X	
6"	30	35	River gravel	X	

4. METHOD DRILLED  
 Cable  Rotary  Dug  Other

5. WELL CONSTRUCTION  
 Diameter of hole 6 inches Total depth 35 feet  
 Casing schedule:  Steel  Concrete

Thickness	Diameter	From	To
<u>250</u> inches	<u>6</u> inches	<u>1</u> feet	<u>35</u> feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ 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
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed?  Yes  No  
 Manufacturer's name \_\_\_\_\_  
 Type \_\_\_\_\_ Model No. \_\_\_\_\_  
 Diameter \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
 Diameter \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ feet to \_\_\_\_\_ feet

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

Surface seal depth 18' Material used in seal  Cement grout  
 Pudding clay  Well cuttings  
 Sealing procedure used  Slurry pit  Temporary surface casing  
 Overbore to seal depth

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

Subdivision Name \_\_\_\_\_  
 Lot No. \_\_\_\_\_ Block No. \_\_\_\_\_  
 County Blaine

10. Work started 4/20/76 finished 4/21/76

11. DRILLERS CERTIFICATION  
 Firm Name Ken Smith Well Drilling Firm No. 265  
 Address Box 1165 Hailey, Idaho Date 5/2/76  
 Signed by (Firm Official) Ken Smith  
 and  
 (Operator) Ken Smith

N. 1/4 S. E. 4 Sec. 31 T. 4 N. N/S. R. 18 BE/W

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

373103







USE TYPEWRITER OR BALL POINT PEN

State of Idaho Department of Water Administration WELL DRILLER'S REPORT

RECEIVED DEC 15 1970

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 William Larzeler Address 9713 Sylvia Ave. North Ridge, Calif. 91234 Owner's Permit No.

7. WATER LEVEL Static water level 14 feet below land surface Flowing? No G.P.M. flow Temperature F. Quality Artesian closed-in pressure p.s.i. Controlled by Valve Cap Plug

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

8. WELL TEST DATA Pump Bailer Other Discharge G.P.M. Draw Down Hours Pumped 36 8' 1

3. PROPOSED USE Domestic Irrigation Test Municipal Industrial Stock

9. LITHOLOGIC LOG 39771

4. METHOD DRILLED Cable Rotary Dug Other

Table with columns: Hole Diam., Depth (From, To), Material, Water (Yes, No). Rows include: 2 3/8" 0-16 Gravel & small boulders, 6" 16-18 Sand & clay, 6" 18-43 Sand & clay, 6" 43-82 Brown sandstone, 6" 82-83 Scoria, 6" 83-90 Gray sandstone.

5. WELL CONSTRUCTION Diameter of hole 6 inches Total depth 90 feet Casing schedule: Steel Concrete Thickness Diameter From To 2 1/2 inches 6 inches 1 1/2 feet 4 1/2 feet

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

10. Work started 3 Nov 70 finished 8 Nov 70

SE 1/4 Sec. 31 T. 4 N. 18 E/W Lot 19 Gimlet Sub Division #2

11. DRILLER'S CERTIFICATION This well was drilled under my supervision and this report is true to the best of my knowledge. ROESSLER WELL DRILLING 19 Number Shoshone, Idaho Address Signed By Roy Roessler 24 Nov 70 Date

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

362031

USE TYPEWRITER OR BALL POINT PEN

State of Idaho  
Department of Water Resources

RECEIVED

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. NOV 12 1975

**1. WELL OWNER**  
 Name RICK FABINO  
 Address KETCHUM IDAHO  
 Owner's Permit No. \_\_\_\_\_

**7. WATER LEVEL**  
 Department of Water Resources  
 Southern District Office  
 Static water level 2.0 feet below land surface  
 Flowing?  Yes  No G.P.M. flow \_\_\_\_\_  
 Temperature \_\_\_\_\_ ° F. Quality \_\_\_\_\_  
 Artesian closed-in pressure \_\_\_\_\_ p.s.i.  
 Controlled by  Valve  Cap  Plug

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

**8. WELL TEST DATA**  
 Pump  Bailor  Other  

Discharge G.P.M.	Draw Down	Hours Pumped
<u>40</u>	<u>NONE</u>	<u>1</u>

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

**9. LITHOLOGIC LOG** 033818

Hole Diam.	Depth		Material	Water	
	From	To		Yes	No
6"	0	3	TOP SOIL & BOULDERS		✓
	3	28	CLAY & BOULDERS		✓
	28	45	CLAY & GRAVEL		✓
	45	47	LIMESTONE		✓

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

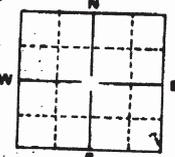
**5. WELL CONSTRUCTION**  
 Diameter of hole 6 inches Total depth 47 feet  
 Casing schedule:  Steel  Concrete  

Thickness	Diameter	From	To
<u>2.50</u> inches	<u>6</u> inches	<u>1</u> feet	<u>47</u> feet

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

Number	From	To
<u>44</u> perforations	<u>30</u> feet	<u>45</u> feet

 Well screen installed?  Yes  No  
 Manufacturer's name \_\_\_\_\_  
 Type \_\_\_\_\_ Model No. \_\_\_\_\_  
 Diameter \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
 Diameter \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
 Gravel packed?  Yes  No Size of gravel \_\_\_\_\_  
 Placed from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
 Surface seal depth 18' Material used in seal  Cement grout  
 Fudding clay  Well cuttings  
 Sealing procedure used  Slurry pit  Temporary surface casing  
 Overbars to seal depth

**6. LOCATION OF WELL**  
 Sketch map location must agree with written location.  
  
 Subdivision Name \_\_\_\_\_  
 Lot No. \_\_\_\_\_ Block No. \_\_\_\_\_  
 County BLAINE  
SE 1/4 SE 1/4 Sec. 31 T. 4 N. R. 18 E.

**10.** Work started 2 SEPT. 75 finished 5 SEPT. 75

**11. DRILLERS CERTIFICATION**  
 Firm Name KER LAND & WATER Firm No. 287  
 Address DIETRICH IDAHO Date 6 SEPT. 75  
 Signed by (Firm Official) Norman Pridinger  
 and  
 (Operator) Norman Pridinger

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

373104

USE TYPEWRITER OR BALL POINT PEN

State of Idaho Department of Water Resources

RECEIVED

WELL DRILLER'S REPORT

JUL 8 1976

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

1. WELL OWNER  
Name George Dondero JUL 12 1976  
Address Box 1581 Ketchum, 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 44 feet  
Casing schedule:  Steel  Concrete  
Thickness 250 inches Diameter 6 inches From 1 feet To 44 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 \_\_\_\_\_  
\_\_\_\_\_ perforations \_\_\_\_\_ feet \_\_\_\_\_ feet  
\_\_\_\_\_ perforations \_\_\_\_\_ feet \_\_\_\_\_ feet  
\_\_\_\_\_ perforations \_\_\_\_\_ feet \_\_\_\_\_ feet  
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  
Gravel seal depth 18' Material used in seal  Cement grout  
 Puddling clay  Well cuttings  
Sealing procedure used  Slurry pit  Temporary surface casing  
 Overbars to seal depth

6. LOCATION OF WELL  
Sketch map location must agree with written location. **37**  
Subdivision Name Gimlet  
Lot No. 20 Block No. \_\_\_\_\_  
County Blaine  
S.E. 1/4 S.E. 1/4 Sec. 31 T. 4 N. N/S. R. 18 E. E/W

7. WATER LEVEL  
Static water level 10 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. 40 Draw Down 8' Hours Pumped 1

9. LITHOLOGIC LOG **033817**

Hole Diam.	Depth		Material	Water	
	From	To		Yes	No
8"	0	3	Sandy top soil		X
8"	3	10	Gravel and boulders		X
8"	10	14	Sand and gravel	X	
8"	14	18	Gravel set in clay		X
6"	18	26	Gravel set in clay		X
6"	26	32	Sand and gravel	X	
6"	32	41	Gravel set in clay		X
6"	41	44	River gravel	X	

10. Work started 4/21/76 finished 4/24/76

11. DRILLERS CERTIFICATION  
Firm Name Ken Smith Well Drilling Firm No. 265  
Address Box 1165 Hailey, Idaho Date 5/13/76  
Signed by (Firm Official) Ken Smith  
and  
(Operator) Ken Smith

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

373106

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

USE TYPEWRITER OR  
BALLPOINT PEN

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.

**RECEIVED**

**1. WELL OWNER**  
Name JOE B. SAVIERS  
Address BOX 106, SUN VALLEY, IDA 83330  
Owner's Permit No. \_\_\_\_\_

**7. WATER LEVEL**  
Static water level 4 feet below land surface.  
Flowing?  Yes  No  
Artesian closed-in pressure \_\_\_\_\_  
Controlled by:  Valve  Cap  Plug  
Temperature \_\_\_\_\_ °F. Quality \_\_\_\_\_

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

**8. WELL TEST DATA**  
 Pump  Bailor  Air  Other \_\_\_\_\_

Discharge G.P.M.	Pumping Level	Hours Pumped
<u>40</u>	<u>15'</u>	<u>1</u>

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

**9. LITHOLOGIC LOG**

Hole Diam.	Depth		Material	Water	
	From	To		Yes	No
6"	0	5	BROWN SOIL	X	
"	5	11	LARGE Boulders	X	
"	11	12	COARSE SAND	X	
"	13	40	GRAVEL & SAND CLAY	X	
"	40	45	LOOSE BROWN SANDSTONE		
"	45	54	HARD LIMESTONE		
"	54	55	SCORIA	X	
"	55	58	HARD BROWN LIMESTONE		

**4. METHOD DRILLED**  
 Rotary  Air  Hydraulic  Reverse rotary  
 Cable  Dug  Other \_\_\_\_\_

**5. WELL CONSTRUCTION**  
Casing schedule:  Steel  Concrete  Other \_\_\_\_\_

Thickness	Diameter	From	To
<u>2.50</u> inches	<u>6</u> inches	<u>1</u> feet	<u>4.5</u> feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ 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 \_\_\_\_\_ perforations \_\_\_\_\_ feet \_\_\_\_\_ feet  
\_\_\_\_\_ perforations \_\_\_\_\_ feet \_\_\_\_\_ feet  
\_\_\_\_\_ perforations \_\_\_\_\_ feet \_\_\_\_\_ feet  
Well screen installed?  Yes  No  
Manufacturer's name \_\_\_\_\_  
Type \_\_\_\_\_ Model No. \_\_\_\_\_  
Diameter \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
Diameter \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
Gravel packed?  Yes  No  Size of gravel \_\_\_\_\_  
Placed from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
Surface seal depth 18 Material used in seal:  Cement grout  
 Puddling clay  Well cuttings  
Sealing procedure used:  Slurry pit  Temp. surface casing  
 Overbore to seal depth  
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.

Subdivision Name GAULET  
# 9  
Lot No. 5 Block No. \_\_\_\_\_

County BLAINE  
SE 1/4 SE 1/4 Sec. 31, T. 4 N. R. 18 E. M.

**10:** Work started 15 MAY 82 finished 20 MAY 82

**11. DRILLERS CERTIFICATION** RL  
I/We certify that all minimum well construction standards were  
complied with at the time the rig was removed.  
RAY BOESLER  
Firm Name WELLS DRILLING Firm No. 262  
129 5TH AVE E.  
Address GOODING, IDA 83330 Date 22 MAY 82  
Signed by (Firm Official) Ray Boesler  
and  
(Operator) Ray Boesler

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

Saviens 110911



USE TYPEWRITER OR BALL POINT PEN

State of Idaho  
Department of Reclamation

**WELL DRILLER'S REPORT**

RECEIVED

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

FEB 23 1970

<p><b>1. WELL OWNER</b></p> <p>Name <u>Chalet Motel</u>          Address <u>Hatchum, Idaho</u>          Owner's Permit No. <u>none</u></p>	<p><b>7. WATER LEVEL</b></p> <p>Static water level <u>30</u> feet          Flowing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No G.P.M. flow _____          Temperature _____ ° F. Quality _____          Artesian closed-in pressure _____ p.s.i.          Controlled by <input type="checkbox"/> Valve <input type="checkbox"/> Cap <input type="checkbox"/> Plug</p>																																														
<p><b>2. NATURE OF WORK</b></p> <p><input checked="" type="checkbox"/> New well <input type="checkbox"/> Deepened <input type="checkbox"/> Replacement  <input type="checkbox"/> Abandoned (describe method of abandoning)</p>	<p><b>8. WELL TEST DATA</b></p> <p><input checked="" type="checkbox"/> Pump <input type="checkbox"/> Bailer <input type="checkbox"/> Other</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Discharge G.P.M.</th> <th>Draw Down</th> <th>Hours Pumped</th> </tr> <tr> <td style="text-align: center;">40</td> <td style="text-align: center;">8 ft</td> <td style="text-align: center;">10</td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	Discharge G.P.M.	Draw Down	Hours Pumped	40	8 ft	10																																								
Discharge G.P.M.	Draw Down	Hours Pumped																																													
40	8 ft	10																																													
<p><b>3. PROPOSED USE</b></p> <p><input type="checkbox"/> Domestic <input type="checkbox"/> Irrigation <input type="checkbox"/> Test  <input checked="" type="checkbox"/> Municipal <input type="checkbox"/> Industrial <input type="checkbox"/> Stock</p>	<p><b>9. LITHOLOGIC LOG</b> <span style="float: right;">041520</span></p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Hole Diam.</th> <th colspan="2">Depth</th> <th rowspan="2">Material</th> <th colspan="2">Water</th> </tr> <tr> <th>From</th> <th>To</th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>6"</td> <td>0</td> <td>49</td> <td>Gravel + Boulders</td> <td></td> <td>X</td> </tr> <tr> <td>6"</td> <td>49</td> <td>65</td> <td>Red Sand + Clay</td> <td>X</td> <td></td> </tr> <tr> <td>6"</td> <td>65</td> <td>78</td> <td>Brown Clay</td> <td></td> <td>X</td> </tr> <tr> <td></td> <td>78</td> <td>80</td> <td>Washed River Sand Coarse</td> <td></td> <td>X</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Hole Diam.	Depth		Material	Water		From	To	Yes	No	6"	0	49	Gravel + Boulders		X	6"	49	65	Red Sand + Clay	X		6"	65	78	Brown Clay		X		78	80	Washed River Sand Coarse		X												
Hole Diam.	Depth		Material	Water																																											
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6"	0	49	Gravel + Boulders		X																																										
6"	49	65	Red Sand + Clay	X																																											
6"	65	78	Brown Clay		X																																										
	78	80	Washed River Sand Coarse		X																																										
<p><b>4. METHOD DRILLED</b></p> <p><input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rotary <input type="checkbox"/> Dug <input type="checkbox"/> Other</p>	<p><b>5. WELL CONSTRUCTION</b></p> <p>Diameter of hole <u>6</u> inches Total depth <u>80</u> feet          Casing schedule: <input checked="" type="checkbox"/> Steel <input type="checkbox"/> Concrete</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Thickness</th> <th>Diameter</th> <th>From</th> <th>To</th> </tr> </thead> <tbody> <tr> <td><u>250</u> inches</td> <td><u>6-5/8</u> inches</td> <td><u>±1</u> feet</td> <td><u>50</u> feet</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <p>Was a packer or seal used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No          Perforated? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No          How perforated? <input type="checkbox"/> Factory <input type="checkbox"/> Knife <input type="checkbox"/> Torch          Size of perforation _____ inches by _____ inches</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Number</th> <th>From</th> <th>To</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <p>Well screen installed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No          Manufacturer's name _____          Type _____ Model No. _____          Diameter _____ Slot size _____ Set from _____ feet to _____ feet          Diameter _____ Slot size _____ Set from _____ feet to _____ feet</p> <p>Gravel packed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Size of gravel _____          Placed from _____ feet to _____ feet</p> <p>Surface seal? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No To what depth _____ feet          Material used in seal <input type="checkbox"/> Cement grout <input type="checkbox"/> Puddling clay</p>	Thickness	Diameter	From	To	<u>250</u> inches	<u>6-5/8</u> inches	<u>±1</u> feet	<u>50</u> feet																	Number	From	To																			
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USE ADDITIONAL SHEETS IF NECESSARY

388431

**WELL LOG AND REPORT TO THE  
STATE RECLAMATION ENGINEER OF IDAHO**

**RECEIVED**

Log No. \_\_\_\_\_  
 Rec. DEC 29 1953  
 Well No. Department of Reclamation  
 Permit No. 034455

(DO NOT FILL IN)

Owner F. J. ODERMATT Driller EUGENE W WALKER  
 Address KETCHUM Address TWIN FALLS Lic. No. 15  
 Location of Well 1/4 SE 1/4 Sec 31, T. 4 N. R. 18 E. BLAINE County. \_\_\_\_\_  
 and 2616.0 feet NS, and 1834 feet NW from NE corner of 1/4 1/4 Sec. 31  
 Water will be used for DOMESTIC IRRIGATION Total depth of well 296  
 Size of drilled hole 8 inch Weight of casing per linear foot 25 # x 28  
 Thickness of casing 277 and 322 Casing material Pipe  
(Casing 12" in diameter and under give inside diameter/casing over 12" in diameter give outside diameter.)  
 Diameter, length and location of casing 8" 45 1/2 ft surface  
 Number and size of perforations 25 1/4" x 6 located 38 feet to 43 feet  
 from surface of ground.

Other perforations: none  
 If flowing well, give flow in c.f.s. \_\_\_\_\_ or g.p.m. \_\_\_\_\_ and shut in pressure \_\_\_\_\_  
 If non-flowing well, give depth of standing water from surface 35 1/2  
 If flowing well, describe control works \_\_\_\_\_  
(Type and size of valve, etc.)  
 On pumping test delivery was 1000 g.p.m. or \_\_\_\_\_ c.f.s. Drawdown was 90 feet  
 Length of time pumped during check was 2 hr. \_\_\_\_\_ min. Water temp. 53 - 64 Fahrenheit.  
 Date of commencement of well Oct. 9 1953 Date of completion of well Nov. 28  
 Type of well rig CHURN

**CASING RECORD**

Diam. Casing	From Foot	To Foot	Length	Remarks - Seals, Grouting, Etc.

**GENERAL INFORMATION - Pumping Test, Quality of Water, Etc.**

\_\_\_\_\_

W SE 5.31 4N 18E

374262

WELL LOG

From Foot	To Foot	Type of Material	Drilling Time		Water-bearing Formation Ans. Yes or No	Casing Perforated Ans. Yes or No
			Hrs.	Min.		
0	4	Surface gravel & dirt	1		No	No
4	40	gravel boulders & sand	6.6		Yes	40 ft
40	43	Clay		30		
43	83	Brown decomposed ANDESITE	15	30	83	
83	105	Green ANDESITE	7		100 105	
105	125	Green " with <sup>lemons</sup> of clay	13		No	
125	146	Green ANDESITE	8		No	
146	153	" "	5		No	
153	173	" " with <sup>lemons</sup> of clay	12		No	
173	181	" "	5		No	
<del>181</del>	206	Green & grey & Blue ANDESITE	12		No	
206	229	" & grey ANDESITE	10		No	
229	233	Green ANDESITE	3		No	
233	243	" "	8		No	
243	254	" "	10		No	
254	264	" "	10			
264	275	Layer of Rock & Clay about 1 foot	8		275	
275	292	FAULT - (Clay - shale sand)	100	Casing	No	
292	296	<sup>If more space is required use Sheet No. 2</sup> Hard Rock - could be lime	8			

WELL DRILLERS STATEMENT

This well was drilled under my jurisdiction and the above information is true and correct to the best of my knowledge and belief.

Signed Eugene J. Haller  
By \_\_\_\_\_

NOTARIZATION NOT NECESSARY  
UNDER NEW LAW.

Dated \_\_\_\_\_, 19\_\_\_\_

License No. \_\_\_\_\_

Subscribed and sworn before me this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_

Notary Public

My commission expires \_\_\_\_\_

Residing at \_\_\_\_\_

IDAHO DEPARTMENT OF WATER RESOURCES  
WELL DRILLER'S REPORT

Use Typewriter  
or  
Ball Point Pen

1. DRILLING PERMIT NO. 37-93-S-0134-000  
Other IDWR No. \_\_\_\_\_

2. OWNER: JAMES WELSH  
Name \_\_\_\_\_  
Address PO BOX 3880  
City KETCHUM State ID Zip 83340

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.

N					
S					

Twp. 4 North  or South   
Rge. 18 East  or West   
Sec. 31 NE 1/4 NE 1/4 1/4  
Gov't Lot \_\_\_\_\_ County \_\_\_\_\_

Address of Well Site 101 Red Cliffs Rd.  
City Ketchum  
Lt. 1 Blk. \_\_\_\_\_ Sub. Name Redcliff Sub.

4. PROPOSED USE:

- Domestic  Municipal  Monitor  Irrigation  
 Thermal  Injection  Other \_\_\_\_\_

5. TYPE OF WORK

- New Well  Modify or Repair  Replacement  Abandonment

6. DRILL METHOD

- Mud Rotary  Air Rotary  Cable  Other \_\_\_\_\_

7. SEALING PROCEDURES

SEAL/FILTER PACK			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	
<u>BELTONITE</u>	<u>0</u>	<u>20</u>	<u>12 Sks</u>	<u>Dump</u>

Was drive shoe used?  Y  N  
Was drive shoe seal tested?  Y  N  How? \_\_\_\_\_

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
<u>6 1/2</u>	<u>43</u>	<u>250</u>	<u>250</u>	<u>STEEL</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Length of Headpipe \_\_\_\_\_ Length of Tailpipe \_\_\_\_\_

9. PERFORATIONS/SCREENS

- Perforations Method Saw  
 Screens Screen Type \_\_\_\_\_

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
<u>40</u>	<u>100</u>	<u>1/8"</u>	<u>50</u>	<u>3"</u>	<u>PLASTIC</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

17 ft. below ground Artesian pressure \_\_\_\_\_ lb.  
Depth flow encountered \_\_\_\_\_ ft. Describe access port or control devices: \_\_\_\_\_

11. WELL TESTS:

- Pump  Bailer  Air  Flowing Artesian

Yield gal/min.	Drawdown	Pumping Level	Time
<u>40</u>		<u>100</u>	<u>1</u>

Water Temp. \_\_\_\_\_ Bottom hole temp. \_\_\_\_\_  
Water Quality test or comments: \_\_\_\_\_

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Y	N
<u>8</u>	<u>0</u>	<u>5</u>	<u>TOP SOIL</u>		<input checked="" type="checkbox"/>
<u>8</u>	<u>5</u>	<u>15</u>	<u>SAND &amp; CLAY</u>		<input checked="" type="checkbox"/>
<u>8</u>	<u>15</u>	<u>27</u>	<u>GRAVEL &amp; CLAY</u>		<input checked="" type="checkbox"/>
<u>6</u>	<u>27</u>	<u>43</u>	<u>GRAVEL SAND CLAY</u>		<input checked="" type="checkbox"/>
<u>6</u>	<u>43</u>	<u>90</u>	<u>GRANITE &amp; BLUE CLAY</u>		<input checked="" type="checkbox"/>
<u>6</u>	<u>90</u>	<u>100</u>	<u>GRANITE</u>		<input checked="" type="checkbox"/>

RECEIVED  
NOV 3 1994  
Department of Water Resources

APR 20 1994  
Department of Water Resources  
SOUTHWEST REGIONAL OFFICE

MAY 08 1995

Completed Depth 100 (Measurable)  
Date: Started 9/26/93 Completed 9/27/93

13. DRILLER'S CERTIFICATION

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

HOOD RIVER DRILLING & PUMP  
Firm Name BOX 837 BELLEVUE, ID 83313 Firm No. 265  
Firm Official Ken Smith Date 10-24-93  
and  
Supervisor or Operator ROD McLaughlin Date 10-24-93  
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

213729



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.

<p><b>1. WELL OWNER</b></p> <p>Name <u>R. S. Petersen</u></p> <p>Address <u>Hetchum Ida</u></p> <p>Owner's Permit No. _____</p>	<p><b>7. WATER LEVEL</b></p> <p>Static water level <u>16</u> feet below land surface</p> <p>Flowing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No G.P.M. flow _____</p> <p>Temperature _____ ° F. Quality _____</p> <p>Artesian closed-in pressure _____ p.s.i.</p> <p>Controlled by <input type="checkbox"/> Valve <input type="checkbox"/> Cap <input type="checkbox"/> Plug</p>																																																																												
<p><b>2. NATURE OF WORK</b></p> <p><input checked="" type="checkbox"/> New well <input type="checkbox"/> Deepened <input type="checkbox"/> Replacement</p> <p><input type="checkbox"/> Abandoned (describe method of abandoning)</p>	<p><b>8. WELL TEST DATA</b></p> <p><input type="checkbox"/> Pump <input checked="" type="checkbox"/> Bailor <input type="checkbox"/> Other</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Discharge G.P.M.</th> <th>Draw Down</th> <th>Hours Pumped</th> </tr> <tr> <td style="text-align: center;"><u>10</u></td> <td style="text-align: center;"><u>18.5</u></td> <td style="text-align: center;"><u>2</u></td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	Discharge G.P.M.	Draw Down	Hours Pumped	<u>10</u>	<u>18.5</u>	<u>2</u>																																																																						
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USE ADDITIONAL SHEETS IF NECESSARY

362029



RECEIVED  
JUL 26 1984

STATE OF IDAHO  
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR  
BALLPOINT PEN

WELL DRILLER'S REPORT

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

RECEIVED  
JUL 2 1984  
Department of Water Resources  
Southern District Office

1. WELL OWNER (Jim Bisher - Contractor)

Name Roy A. Hoffman  
Address #2 Crickewood Path  
Pasadena CA 91107  
Owner's Permit No. 37-84-C-0027-000

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 \_\_\_\_\_  
Thickness 2.50 inches Diameter 6 inches From 20 feet To 58 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 \_\_\_\_\_ perforations From \_\_\_\_\_ feet To \_\_\_\_\_ feet  
Well screen installed?  Yes  No  
Manufacturer's name \_\_\_\_\_  
Type \_\_\_\_\_ Model No. \_\_\_\_\_  
Diameter \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
Gravel packed?  Yes  No  Size of gravel \_\_\_\_\_  
Placed from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
Surface seal depth 18 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  
 Cemented between strata  
Describe access port \_\_\_\_\_

6. LOCATION OF WELL  
Sketch map location must agree with written location.  
Subdivision Name R.T. Huffman - Berles Cor  
Subdivision  
Lot No. 5 Block No. \_\_\_\_\_  
County BLAINE  
T. 4 N. S. R. 18 E. W.

7. WATER LEVEL  
Static water level 5 feet below land surface.  
Flowing?  Yes  No G.P.M. flow \_\_\_\_\_  
Artesian closed-in pressure \_\_\_\_\_ p.s.i.  
Controlled by:  Valve  Cap  Plug  
Temperature \_\_\_\_\_ °F. Quality \_\_\_\_\_  
Describe artesian or temperature zones below.

8. WELL TEST DATA  
 Pump  Bailer  Air  Other \_\_\_\_\_  
Discharge G.P.M. 10 Pumping Level 125' Hours Pumped 1

9. LITHOLOGIC LOG 71790

Bore Diam.	Depth		Material	Water	
	From	To		Yes	No
"	0	2	SMALL GRAVEL & SAND		
"	2	8	SMALL BULDERS & SAND	X	
"	8	22	LARGE BULDERS & GRAVEL	X	
"	20	38	LARGE BULDERS CLAY & SAND	X	
"	38	40	COARSE SAND & FINE CLAY		
"	40	42	SOFT BROWN SANDSTONE		
"	42	56	SOFT GREY SANDSTONE		
"	56	64	GREY SANDSTONE		
"	64	65	" " SCORIA (SMALL)	X	
"	65	75	GREY SANDSTONE		
"	75	102	LIGHT BLUE SANDSTONE		
"	102	104	DARK GREY SANDSTONE		
"	104	137	LIGHT BLUE SANDSTONE		
"	137	138	" " SCORIA (SMALL)	X	
"	138	141	LIGHT GREY SANDSTONE		

10. Work started 29 MAY 84 finished 4 JUNE 84

11. DRILLERS CERTIFICATION DR  
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.  
Firm Name RAY KRESSLER Firm No. 262  
WELL DRILLING  
125TH AVE E.  
Address COODING, WA 99330 Date 4 JUNE 84  
Signed by (Firm Official) R. Kressler  
and  
(Operator) Roy Hoffman

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

314724

USE TYPEWRITER OR BALL POINT PEN

State of Idaho Department of Water Resources

RECEIVED

JUN 29 1977

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.

Department of Water Resources Southern District Office

1. WELL OWNER  
 Name Jack Dodds  
 Address Ketchum Idaho  
 Owner's Permit No. \_\_\_\_\_

7. WATER LEVEL  
 Static water level 9 feet below land surface  
 Flowing?  Yes  No G.P.M. flow \_\_\_\_\_  
 Temperature \_\_\_\_\_ F. Quality \_\_\_\_\_  
 Artesian closed-in pressure \_\_\_\_\_ p.s.i.  
 Controlled by  Valve  Cap  Plug

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

8. WELL TEST DATA  
 Pumo  Bailer  Other  

Discharge G.P.M.	Draw Down	Hours Pumped
30	4 FT.	2

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

9. LITHOLOGIC LOG 023023

4. METHOD DRILLED  
 Cable  Rotary  Dug  Other

Hole Diam.	Depth		Material	Water	
	From	To		Yes	No
8	0	1	Top soil		
8	1	18	Gravel set in clay		X
6	18	20	" " " "		X
6	20	23	Heaving sand		X
6	23	26	Gravel set in clay		X
6	26	33	Gravel and coarse sand		X

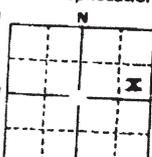
5. WELL CONSTRUCTION  
 Diameter of hole 6 inches Total depth 33 feet  
 Casing schedule:  Steel  Concrete  

Thickness	Diameter	From	To
<u>250</u> inches	<u>6</u> inches	<u>1</u> feet	<u>33</u> feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ 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
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

 Well screen installed?  Yes  No  
 Manufacturer's name \_\_\_\_\_  
 Type \_\_\_\_\_ Model No. \_\_\_\_\_  
 Diameter \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
 Diameter \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
 Gravel packed?  Yes  No Size of gravel \_\_\_\_\_  
 Placed from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
 Surface seal depth 18 FT. Material used in seal  Cement grout  
 Pudding clay  Well cuttings  
 Sealing procedure uses  Shurry pit  Temporary surface casing  
 Overbore to seal depth

6. LOCATION OF WELL  
 Sketch map location must agree with written location (37)  
  
 Subdivision Name \_\_\_\_\_  
 Lot No. \_\_\_\_\_ Block No. \_\_\_\_\_  
 County Blaine  
 S.E. N.E. 31 4 N. 18 E.  
 1/4 Sec. \_\_\_\_\_ T. \_\_\_\_\_ N/S, R. \_\_\_\_\_ E/W

10. Work started 7-26-1977 finished 7-27-77

11. DRILLERS CERTIFICATION  
 Firm Name Ken Smith Well Drilling Firm No. 265  
 Address Box 1165 Hailey Ida. Date 8-14-77  
 Signed by (Firm Official) Ken Smith  
 and  
 (Operator) Wayne Bell

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

360721















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

Use Typewriter or Ballpoint Pen

62302

Office Use Only  
 Inspected by \_\_\_\_\_  
 Twp \_\_\_\_\_ Rge \_\_\_\_\_ Sec \_\_\_\_\_  
 \_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4  
 Lat: : : Long: : :  
 Air  Flowing Artesian

1. DRILLING PERMIT NO. 37-97-S-0129-000  
 Other IDWR No. D0002189

2. OWNER:  
 Name Blaine Co. Rec. District  
 Address PO Box 297  
 City Hailey State Id. Zip 83333

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.

N					
W		E			
S					

Twp. 4 North  or South   
 Rge. 18 East  or West   
 Sec. 30 1/4 SE 1/4 SE 1/4  
 Gov't Lot \_\_\_\_\_ County Blaine  
 Lat: : : Long: : :  
 Address of Well Site HWY 75 &  
Broadway Run City Ketchum  
 (Give at least name of road + Distance to Road or Landmark)

Lt. \_\_\_\_\_ Bk. \_\_\_\_\_ Sub. Name \_\_\_\_\_

4. USE:

- Domestic  Municipal  Monitor  Irrigation  
 Thermal  Injection  Other commercial

5. TYPE OF WORK check all that apply (Replacement etc.)

- New Well  Modify  Abandonment  Other \_\_\_\_\_

6. DRILL METHOD

- Air Rotary  Cable  Mud Rotary  Other \_\_\_\_\_

7. SEALING PROCEDURES

SEAL/FILTER PACK		AMOUNT		METHOD
Material	From	To	Sacks or Pounds	
Bentonite	0	20	10sks	10" overbore
Chips				

Was drive shoe used?  Y  N Shoe Depth(s) \_\_\_\_\_  
 Was drive shoe seal tested?  Y  N How? \_\_\_\_\_

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6	+1.5	53	.250	steel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Length of Headpipe \_\_\_\_\_ Length of Tailpipe \_\_\_\_\_

9. PERFORATIONS/SCREENS

- Perforations Method Knife  
 Screens Screen Type \_\_\_\_\_

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
30	43	3	200	1.5	steel	<input type="checkbox"/>	<input checked="" type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

14 ft. below ground Artesian pressure \_\_\_\_\_ lb.  
 Depth flow encountered \_\_\_\_\_ ft. Describe access port or control devices: \_\_\_\_\_

11. WELL TESTS:

- Pump  Bailor

Yield gal./min.	Drawdown	Pumping Level	Time
14		45	1

Water Temp. \_\_\_\_\_ Bottom hole temp. \_\_\_\_\_

Water Quality test or comments: \_\_\_\_\_

Depth first Water Encountered \_\_\_\_\_

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water
8	0	2	Topsoil	X
8	2	15	Sand & Gravel	X
8	15	20	Clay & Gravel	X
6	20	25	Clay & Gravel	X
6	25	35	Gravel & Boulders	X
6	35	43	Gravel & Clay	X
6	43	52	Broken Granite & Clay	X
6	52	60	Granite	X

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Department of Water Resources  
 Southern Region

RECEIVED

NOV 20 1997

Department of Water Resources

Completed Depth 60 (Measurable)  
 Date: Started 10/10/97 Completed 10/14/97

13. DRILLER'S CERTIFICATION

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

Firm Name Wood River Drilling/Pump Firm No. 265

Firm Official Ken Smith Date 11/12/97

and Supervisor or Operator Bob McAnally Date 11/12/97

(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

312968



Appendix 2:  
Estimation of Hydraulic Conductivity

# Table 1

## ESTIMATION OF HYDRAULIC CONDUCTIVITY USING SPECIFIC CAPACITY

Project: Machado Stock and Commercial Well Analysis  
 Brockway Engineering, PLLC 11/20/12

Well I.D.	SWL (ft)	Bore diam (in)	Pumping rate (gpm)	Pumping duration (hrs)	Pumping WL (ft)	Well Depth (ft)	Saturated Depth (ft)	Drawdown (ft)	Specific Cap (gpm/ft)	Estimated T (ft <sup>2</sup> /d)*		Average T from the two methods	Estimated K (ft/d)***		Average K from the two methods	Test Type
										Method 1	Method 2		Method 1	Method 2		
	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	
1 Ready To Pour	9.5	6	50	4	27.5	42	32.5	18	2.8	420	742	581	12.9	22.8	17.87	pump
2 Thomas Horne	12	6	100	1	35	40	28	23	4.3	564	1161	863	20.2	41.5	30.81	pump
3 Examiner Realty	15	16	500	5	32	88	73	17	29.4	2272	7853	5063	31.1	107.6	69.35	pump
4 Joe Goliandie	15	10	10	1	223	221	206	208	0.05	5	13	9	0.0	0.1	0.04	air
5 Charles Whistler	8	8	40	1	13	35	27	5	8.0	1038	2136	1587	38.5	79.1	58.78	baller
6 Fred Beam	10	8	200	1	11	20	10	6	200.0	23363	53400	38381	2336.3	5340.0	3838.14	air
7 Jack Dodds	6	6	30	1	12	30	24	1	5.0	649	1335	992	27.0	55.6	41.33	baller
8 Henry Whiting	6	8	45	2	18	72	66	12	3.8	474	1001	738	7.2	15.2	11.18	baller
9 William Larzeler	14	6	36	1	22	90	76	8	4.5	584	1202	893	7.7	15.8	11.75	baller
10 Rick Fabino	20	6	40	1	21	47	27	1	40.0	5192	10680	7936	192.3	395.6	293.92	baller
11 George Dondero	10	6	40	1	18	44	34	8	5.0	649	1335	992	19.1	39.3	29.18	baller
12 Joe Saviers	4	6	40	1	19	58	54	15	2.7	346	712	529	6.4	13.2	9.80	baller
13 Jerry Kirkman	30	12	60	2	36	84	49	8	60.0	5899	16020	10959	120.4	326.9	223.66	baller
14 Chalet Motel	40	6	40	10	38	80	50	1	5.0	826	1335	1080	16.5	26.7	21.61	pump
15 E.J. Odematt	36	8	17	2	126	296	260	90	0.2	24	50	37	0.1	0.2	0.14	pump
16 James Welsh	17	6	40	1	60	100	83	43	0.9	121	248	185	1.5	3.0	2.22	air
17 Wallace Huffman	5	6	30	1	35	38	33	30	1.0	130	267	198	3.9	8.1	6.01	air
18 R.S. Peterson	16	6	10	2	201	192	176	185	0.1	8	14	11	0.0	0.1	0.06	baller
19 John McDonald	2	6	40	1	33	210	208	31	1.3	167	345	256	0.8	1.7	1.12	pump
20 Roy Hoffman	5	6	10	1	128	141	136	123	0.1	11	22	16	0.1	0.2	0.12	baller
21 Jack Dodds	9	6	30	2	13	33	24	4	7.5	1053	2003	1528	43.9	83.4	63.66	baller
22 Joe Goliandie	25	6	100	1	200	240	215	175	0.6	74	153	113	0.3	0.7	0.53	baller
23 Deane Johnson	8	6	80	1	140	190	182	132	0.6	79	162	120	0.4	0.9	0.66	air
24 Lawrence Mobile Home	19	6	31	2.5	35	34	36	15	2.1	297	552	425	8.3	15.3	11.79	pump
25 Russel Sattler	12	6	20	1	35	38	26	23	0.9	113	232	173	4.3	8.9	6.64	air
26 Woodriver Oil Co.	9	6	30	1	15	38	29	6	5.0	649	1335	992	22.4	46.0	34.21	baller
27 Tom Hornel	33	6	100	1	60	160	127	27	3.7	481	989	735	3.8	7.8	5.79	air
28 Garystone Inc.	20	6	100	1	60	297	277	40	2.5	324	668	496	1.2	2.4	1.79	pump
29 Blaine Co Rec Depart	14	6	14	1	45	60	46	31	0.5	59	121	90	1.3	2.6	1.95	air
30 George Castle	8	8	39	1	9	38	30	1.0	39	4556	10413	7484	151.9	347.1	249.48	baller
Average	14.4	6.9	64.1	1.8	57.3	102.6	88.2	42.9	14.5	1681	3863	2782	102.7	233.6	168.1	

\* Method 1: Theis (1963)  
 Method 2: Thomasson, et al. (1963)  
 \*\* K = T / b, where b = average saturated depth  
 Assumed specific yield (Storativity) 0.15

Saturated Depth = C6-C1  
 Drawdown = C5-C1  
 Specific Capacity = C3/C8  
 T Method 1 =  $0.134 * C9 * F * (1300 - 264 * \text{LOG}(5 * C2) + 264 * \text{LOG}(C4/24))$   
 T Method 2 =  $267 * C9$   
 Average T = AVERAGE(C10,C11)  
 K Method 1 = C10/C7  
 K Method 2 = C11/C7  
 Average K = AVERAGE(C13,C14)

Well Drillers Logs

Owner:	Legal
1 Ready To Pour	T4NS R18E Sec. 30 NESE
2 Thomas Hornel	T4NS R18E Sec. 30 SENE
3 Examiner Reality	T4NS R18E Sec. 31 NESE
4 Joe Golland	T4NS R18E Sec. 31 NWSE
5 Charles Whistler	T4NS R18E Sec. 31 NWSE
6 Fred Beam	T4NS R18E Sec. 31 NESE
7 Jack Dodds	T4NS R18E Sec. 31 NESE
8 Henry Whiting	T4NS R18E Sec. 31 NESE
9 William Larzeler	T4NS R18E Sec. 31 SESE
10 Rick Fabino	T4NS R18E Sec. 31 SESE
11 George Dondero	T4NS R18E Sec. 31 SESE
12 Joe Saviers	T4NS R18E Sec. 31 SESE
13 Jerry Kirkman	T4NS R18E Sec. 31 SESE
14 Chalet Motel	T4NS R18E Sec. 31 SWSE
15 E.J. Odermatt	T4NS R18E Sec. 31 SWSE
16 James Welsh	T4NS R18E Sec. 31 NENE
17 Wallace Huffman	T4NS R18E Sec. 31 NENE
18 R.S Peterson	T4NS R18E Sec. 31 NENE
19 John McDonald	T4NS R18E Sec. 31 NWNE
20 Roy Hoffman	T4NS R18E Sec. 31 SENE
21 Jack Dodds	T4NS R18E Sec. 31 SENE
22 Joe Golland	T4NS R18E Sec. 31 SWNE
23 Deane Johnson	T4NS R18E Sec. 31 SWNE
24 Lawrence Mobile Home	T4NS R18E Sec. 31 SWNE
25 Russel Sailer	T4NS R18E Sec. 30 SENE
26 Woodriver Oil Co.	T4NS R18E Sec. 30 NESE
27 Tom Hornel	T4NS R18E Sec. 30 SENE
28 Garystone Inc.	T4NS R18E Sec. 30 SESE
29 Blaine Co Rec Depart	T4NS R18E Sec. 30 SESE
30 George Castle	T4NS R18E Sec. 30 SWNE

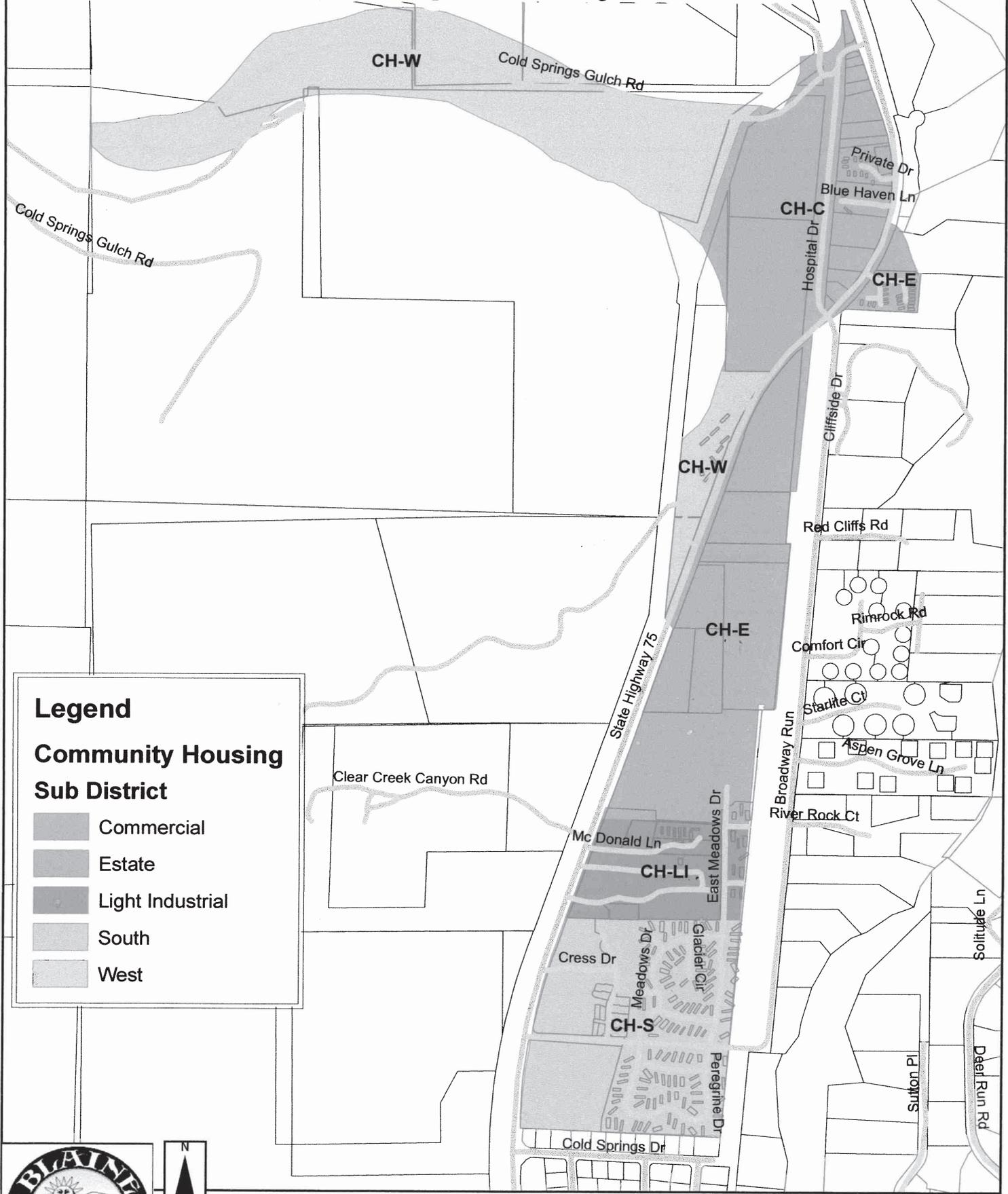
F	
In	1
6	0.9
8	0.8
10	0.7
12	0.6
14	0.5
16	0.4
18	0.3
20	0.3

Hydraulic Conductivity (K)	
Over all Average	168.1 ft/day
Average excluding high and low values	43.1 ft/day
Average for only Pump Test values	19.3 ft/day
Average excluding high and low values	14.2 ft/day

Transmissivity (T)	
Over all Average	2782 ft <sup>2</sup> /day
Average excluding high and low values	1610 ft <sup>2</sup> /day
Average for only Pump Test values	1100 ft <sup>2</sup> /day
Average excluding high and low values	617 ft <sup>2</sup> /day

**Appendix 3:**  
**Sub District Acre Calculations**

# Community Housing Overlay District 04.10.2012



**Legend**

**Community Housing Sub District**

- Commercial
- Estate
- Light Industrial
- South
- West



## EXHIBIT A



This information is to be used ONLY for reference purposes and Blaine County is not responsible for any inaccuracies herein contained

# Table 1

## KETCHUM - SOUTHERN GATEWAY PROJECT

INTERSECTING PARCELS

BROCKWAY ENGINEERING, PLLC.

ALR - NOV. 28, 2012

FID_Parcel	SubDist	Parcel_Num	Owner1	Lgl_Desc1	ACRES
9	CH-E	RP004140000010	BOONE STEPHEN K TRUSTEE	MORSE SUB	2.54
10	CH-E	RP004140000020	COLLIER KATHE	MORSE SUB	2.36
25	CH-E	RP04N180307310	SUN VALLEY TRAILER PARKS INC	FR SE TL 7185, SEC 30	2.09
26	CH-E	RP04N180307330	INNES MARGARET NELL	FR SESE TL 7828 & TL 7829	5.42
46	CH-E	RP04N180317510	MC DONALD GREGORY S	FR N1/2NE TL 8234, FR NE	1.48
47	CH-E	RP04N18031752A	BRAMBLE PATCH DEVELOPMENT LLC	FR NWNE TL 8141	2.17
48	CH-E	RP04N18031752B	BRAMBLE PATCH DEVELOPMENT LLC	FR NWNE TL 8142	7.76
49	CH-E	RP04N180317540	MULLINS ROBERT P	FR NENE TL 6799, SEC 30 & 31	3.40
51	CH-E	RP04N18031760B	DRASHNER-PRICE LLC	FR SWNE TL 6917, SEC 31	11.91
53	CH-E	RP04N180317670	JOHNSON DEANE F	FR SWNE TL 6918, SEC 31	0.53
					39.66
53	CH-LI	RP04N180317670	JOHNSON DEANE F	FR SWNE TL 6918, SEC 31	0.86
2	CH-LI	RP000920000010	MC DONALD JOHN H	CLEAR CREEK LIGHT IND PARK	0.81
3	CH-LI	RP000920000020	MC DONALD JOHN H	CLEAR CREEK LIGHT IND PARK	0.97
4	CH-LI	RP000920000030	MC DONALD JOHN H	CLEAR CREEK LIGHT IND PARK	0.97
					3.61
0	CH-LI	RP000210000010	ACKER RANDALL L	ANIMAL SUB	0.50
1	CH-LI	RP000210000020	ACKER RANDALL	ANIMAL SUB	0.41
52	CH-LI	RP04N180317620	GOITIANDIA JOE	FR SWNE TL 6974, SEC 31	7.36
					8.27
11	CH-S	RP004730000020	MEADOWS LLC THE	QUAIL CREEK PUD SUBDIVISION	5.58
12	CH-S	RP004730010290	MEADOWS LLC THE	QUAIL CREEK PUD SUBDIVISION	0.13
13	CH-S	RP004730010300	MEADOWS LLC THE	QUAIL CREEK PUD SUBDIVISION	0.12
14	CH-S	RP004730010310	MEADOWS LLC THE	QUAIL CREEK PUD SUBDIVISION	0.12
15	CH-S	RP004730020220	MEADOWS LLC THE	QUAIL CREEK PUD SUBDIVISION	0.12
16	CH-S	RP004730020230	MEADOWS LLC THE	QUAIL CREEK PUD SUBDIVISION	0.11
17	CH-S	RP004730020260	MEADOWS LLC THE	QUAIL CREEK PUD SUBDIVISION	0.06
18	CH-S	RP004730020270	MEADOWS LLC THE	QUAIL CREEK PUD SUBDIVISION	0.07
44	CH-S	RP04N18031747A	MEADOWS LLC THE	FR NWSE TL 6740 SEC 31	6.77
					13.08
0	CH-W	RP04N18030744A	SUN VALLEY RESORTS	FR NW TL 4252 & TL 4302	11.79
0	CH-W	RP04N18030744F	MAC DONALD ALEXANDER TRUSTEE	LOT 4, FR LOT 3 TL 7190,	7.11
24	CH-W	RP04N18030729A	GARDNER-BENCH LLC	NESW, FR SWSE TL 2014, FR NWSE	19.30
24	CH-W	RP04N18030729A	GARDNER-BENCH LLC	NESW, FR SWSE TL 2014, FR NWSE	0.07
41	CH-W	RP04N18030744D	CASTLE ANNETTE TRUSTEE	LOT 1, FR LOT 2 TL 4253,	6.08
42	CH-W	RP04N18030744F	MAC DONALD ALEXANDER TRUSTEE	LOT 4, FR LOT 3 TL 7190,	0.07
43	CH-W	RP04N18030744G	TURNER ROGER D	FR SWNE TL 7951	1.40
					45.82

Appendix 4:  
Water Demand per Sub District Design  
Densities

# Table 1

City of Ketchum  
 South Gateway Water Supply  
 Brockway Engineering  
 Community Housing Estate Sub District

		Residential indoor water use	69.3	gal/person/day			% of Gross area that will be Roads	15%
		Persons per unit	3				Commons area per Unit	1000
		Irrigation Efficiency	65%				Backyard area per Unit	500
								ft <sup>2</sup>
								ft <sup>3</sup>
<b>Sub-District</b>	Acres	15 Units/Acre	12 Units/Acre	8 Units/Acre	5 Units/Acre			
<b>CH-E</b>	39.66	595	476	317	198			
		Units	Units	Units	Units			

Average unit foot print per unit (Unit/Storage/Parking)		2000	ft <sup>2</sup>
Average unit foot print per unit (Unit/Storage/Parking)		900	ft <sup>2</sup>
(Based on McHanville Creek 5 Unit Structures)			

		Single Structure Units		
	15 Units/Acre	12 Units/Acre	8 Units/Acre	5 Units/Acre
	27.3	21.9	14.6	9.1
	20.5	16.4	10.9	6.8
	5.9	5.9	5.9	5.9
	14.1	-4.5	8.2	17.8
		Two Level Duplex's		
	15 Units/Acre	12 Units/Acre	8 Units/Acre	5 Units/Acre
	12.3	9.8	6.6	4.1
	20.5	16.4	10.9	6.8
	5.9	5.9	5.9	5.9
	0.9	7.5	16.2	22.8
		Acres for Community Housing		
		Acres for Common Area and Backyards		
		Acres for Roads, Walkways, Driveways		
		Remaining Acres		

**Irrigation Water Demand**  
 Halley Ranger Stn (NWS - 103942)  
<http://data.kimberly-uidaho.edu/ET/Idaho/stcivstats.dv?station=103942&cover=17&stats=Deficit>  
 ET Idaho 2012 - Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho  
 Pdf Grass - Turf (lawns) - Irrigated  
 597 mm  
 1.96 ft

	January	February	March	April	May	June	July	August	September	October	November	December	Total
mm/day	-0.01	0.02	0.04	0.14	2.12	4.07	5.51	4.5	2.76	0.35	-0.25	-0.06	365
day/month	31	28	31	30	31	30	31	31	30	31	30	31	
ft/month				0.01	0.22	0.40	0.56	0.46	0.27	0.04			1.96

**Total Water Demand**

**Single Structures**

**5 Units/Acre**

		Estimated Irrigation Requirement for Common and Backyard Area												Total	
		January	February	March	April	May	June	July	August	September	October	November	December	Acres	
Acre-Feet		0.1 AF	2.3 AF	4.2 AF	5.9 AF	4.8 AF	2.9 AF	0.4 AF	4.8 AF	2.9 AF	0.4 AF	4.8 AF	2.9 AF	6.8	
Gallons per day		1572 gpd	23809 gpd	45709 gpd	61882 gpd	50539 gpd	30997 gpd	3931 gpd	61882 gpd	30997 gpd	3931 gpd	61882 gpd	30997 gpd		<b>20.5 AFA</b>

Daily Potable and Irrigation Demand	41227 gpd	41227 gpd	41227 gpd	42799 gpd	65036 gpd	86936 gpd	103108 gpd	91765 gpd	72224 gpd	45157 gpd	41227 gpd	41227 gpd	29 gpd		
	29 gpm	29 gpm	29 gpm	30 gpm	45 gpm	60 gpm	72 gpm	64 gpm	50 gpm	31 gpm	29 gpm	29 gpm	29 gpm		

Annual Demand for Potable Water	<b>46.2 AFA</b>
Annual Demand for Irrigation Water	<b>20.5 AFA</b>
Total Annual Demand of Potable and Irrigation Water	<b>66.7 AFA</b>

**Single Structures**

**8 Units/Acre**

		Estimated Irrigation area												Total	
		January	February	March	April	May	June	July	August	September	October	November	December	Acres	
Acre-Feet-Annually		0.2 AF	3.6 AF	6.7 AF	9.4 AF	7.7 AF	4.6 AF	0.6 AF	7.7 AF	4.6 AF	0.6 AF	7.7 AF	4.6 AF	10.9	
Gallons per day		2516 gpd	38095 gpd	73135 gpd	99011 gpd	80862 gpd	49595 gpd	6289 gpd	80862 gpd	49595 gpd	6289 gpd	80862 gpd	49595 gpd		<b>32.9 AFA</b>

Daily Potable and Irrigation Demand	65963 gpd	65963 gpd	65963 gpd	68478 gpd	104057 gpd	139098 gpd	164973 gpd	146824 gpd	115558 gpd	72252 gpd	65963 gpd	65963 gpd	46 gpm		
	46 gpm	46 gpm	46 gpm	48 gpm	72 gpm	97 gpm	114 gpm	102 gpm	80 gpm	50 gpm	46 gpm	46 gpm	46 gpm		

Annual Demand for Potable Water	<b>73.9 AFA</b>
Annual Demand for Irrigation Water	<b>32.9 AFA</b>
Total Annual Demand of Potable and Irrigation Water	<b>106.8 AFA</b>

**Single Structures**

**12 Units/Acre**

		Estimated Irrigation Requirement for Common and Backyard Area												Total	
		January	February	March	April	May	June	July	August	September	October	November	December	Acres	
Acre-Feet-Annually		0.3 AF	5.4 AF	10.1 AF	14.1 AF	11.5 AF	6.8 AF	0.9 AF	11.5 AF	6.8 AF	0.9 AF	11.5 AF	6.8 AF	16.4	
Gallons per day		3774 gpd	57142 gpd	109703 gpd	148516 gpd	121293 gpd	74393 gpd	9434 gpd	121293 gpd	74393 gpd	9434 gpd	121293 gpd	74393 gpd		<b>49.3 AFA</b>

Daily Potable and Irrigation Demand	98944 gpd	98944 gpd	98944 gpd	102717 gpd	156086 gpd	208646 gpd	247460 gpd	220237 gpd	173937 gpd	108378 gpd	98944 gpd	98944 gpd	69 gpm		
	69 gpm	69 gpm	69 gpm	71 gpm	108 gpm	145 gpm	172 gpm	153 gpm	120 gpm	75 gpm	69 gpm	69 gpm	69 gpm		

Annual Demand for Potable Water	<b>110.8 AFA</b>
Annual Demand for Irrigation Water	<b>49.3 AFA</b>
Total Annual Demand of Potable and Irrigation Water	<b>160.1 AFA</b>

**Single Structures**

**15 Units/Acre**

		Estimated Irrigation Requirement for Common and Backyard Area												Total	
		January	February	March	April	May	June	July	August	September	October	November	December	Acres	
Acre-Feet-Annually		0.4 AF	6.8 AF	12.6 AF	17.7 AF	14.4 AF	8.6 AF	1.1 AF	14.4 AF	8.6 AF	1.1 AF	14.4 AF	8.6 AF	20.5	
Gallons per day		4717 gpd	74428 gpd	137128 gpd	185645 gpd	151616 gpd	92991 gpd	11792 gpd	151616 gpd	92991 gpd	11792 gpd	151616 gpd	92991 gpd		<b>61.6 AFA</b>

Daily Potable and Irrigation Demand	123680 gpd	123680 gpd	123680 gpd	128397 gpd	195108 gpd	260808 gpd	309325 gpd	275296 gpd	216671 gpd	135472 gpd	123680 gpd	123680 gpd	86 gpm		
	86 gpm	86 gpm	86 gpm	89 gpm	135 gpm	181 gpm	215 gpm	191 gpm	150 gpm	94 gpm	86 gpm	86 gpm	86 gpm		

Annual Demand for Potable Water	<b>138.5 AFA</b>
Annual Demand for Irrigation Water	<b>61.6 AFA</b>
Total Annual Demand of Potable and Irrigation Water	<b>200.2 AFA</b>

**Two Level Duplex's**  
**5 Units/Acre**

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Estimated Irrigation area				6.8									
Acres				0.1 AF	2.3 AF	4.2 AF	5.9 AF	4.8 AF	2.9 AF	0.4 AF			
Annual Demand for Potable Water				1572 gpd	23809 gpd	45709 gpd	61882 gpd	50539 gpd	30997 gpd	3991 gpd			20.5 AFA
Annual Demand of Potable and Irrigation Water													

Daily Potable and Irrigation Demand

41227 gpd	41227 gpd	41227 gpd	42799 gpd	65036 gpd	86936 gpd	103108 gpd	91765 gpd	72224 gpd	45157 gpd	41227 gpd	41227 gpd	
29 gpm	29 gpm	29 gpm	30 gpm	45 gpm	60 gpm	72 gpm	64 gpm	50 gpm	31 gpm	29 gpm	29 gpm	

Annual Demand for Potable Water **46.2 AFA**  
 Annual Demand for Irrigation Water **20.5 AFA**  
 Annual Demand of Potable and Irrigation Water **66.7 AFA**

**Two Level Duplex's**  
**8 Units/Acre**

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Estimated Irrigation Requirement for Common and Backyard Area				10.9									
Acres				0.2 AF	3.6 AF	6.7 AF	9.4 AF	7.7 AF	4.6 AF	0.6 AF			
Annual Demand for Potable Water				2516 gpd	38095 gpd	73135 gpd	99011 gpd	80862 gpd	49595 gpd	6289 gpd			32.9 AFA
Annual Demand of Potable and Irrigation Water													

Daily Potable and Irrigation Demand

65963 gpd	65963 gpd	65963 gpd	68478 gpd	104057 gpd	139098 gpd	164973 gpd	146824 gpd	115558 gpd	72252 gpd	65963 gpd	65963 gpd	
46 gpm	46 gpm	46 gpm	48 gpm	72 gpm	97 gpm	114 gpm	102 gpm	80 gpm	50 gpm	46 gpm	46 gpm	

Annual Demand for Potable Water **73.9 AFA**  
 Annual Demand for Irrigation Water **32.9 AFA**  
 Annual Demand of Potable and Irrigation Water **106.8 AFA**

**Two Level Duplex's**  
**12 Units/Acre**

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Estimated Irrigation Requirement for Common and Backyard Area				16.4									
Acres				0.3 AF	5.4 AF	10.1 AF	14.1 AF	11.5 AF	6.8 AF	0.9 AF			
Annual Demand for Potable Water				3774 gpd	57142 gpd	109703 gpd	148516 gpd	121293 gpd	74393 gpd	9434 gpd			49.3 AFA
Annual Demand of Potable and Irrigation Water													

Daily Potable and Irrigation Demand

98944 gpd	98944 gpd	98944 gpd	102717 gpd	156086 gpd	208646 gpd	247460 gpd	220237 gpd	173337 gpd	108378 gpd	98944 gpd	98944 gpd	
69 gpm	69 gpm	69 gpm	71 gpm	108 gpm	145 gpm	172 gpm	153 gpm	120 gpm	75 gpm	69 gpm	69 gpm	

Annual Demand for Potable Water **110.8 AFA**  
 Annual Demand for Irrigation Water **49.3 AFA**  
 Annual Demand of Potable and Irrigation Water **160.1 AFA**

**Two Level Duplex's**  
**15 Units/Acre**

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Estimated Irrigation Requirement for Common and Backyard Area				20.5									
Acres				0.4 AF	6.8 AF	12.6 AF	17.7 AF	14.4 AF	8.6 AF	1.1 AF			
Annual Demand for Potable Water				4717 gpd	71428 gpd	137128 gpd	185545 gpd	151616 gpd	92991 gpd	11792 gpd			61.6 AFA
Annual Demand of Potable and Irrigation Water													

Daily Potable and Irrigation Demand

123680 gpd	123680 gpd	123680 gpd	128397 gpd	195108 gpd	260808 gpd	309325 gpd	275296 gpd	216671 gpd	135472 gpd	123680 gpd	123680 gpd	
86 gpm	86 gpm	86 gpm	89 gpm	135 gpm	181 gpm	215 gpm	191 gpm	150 gpm	94 gpm	86 gpm	86 gpm	

Annual Demand for Potable Water **138.5 AFA**  
 Annual Demand for Irrigation Water **61.6 AFA**  
 Annual Demand of Potable and Irrigation Water **200.2 AFA**

Single Structure Units				
	15 Units/Acre	12 Units/Acre	8 Units/Acre	5 Units/Acre
Annual Demand for Potable Water			73.9 AFA	46.2 AFA
Annual Demand for Irrigation Water			32.9 AFA	20.5 AFA
<b>Total Annual Demand of Potable and Irrigation Water</b>			<b>106.8 AFA</b>	<b>66.7 AFA</b>

Two Level Duplex's				
	15 Units/Acre	12 Units/Acre	8 Units/Acre	5 Units/Acre
Annual Demand for Potable Water	138.5 AFA	110.8 AFA	73.9 AFA	46.2 AFA
Annual Demand for Irrigation Water	61.6 AFA	49.3 AFA	32.9 AFA	20.5 AFA
<b>Total Annual Demand of Potable and Irrigation Water</b>	<b>200.2 AFA</b>	<b>160.1 AFA</b>	<b>106.8 AFA</b>	<b>66.7 AFA</b>

**Table 2**

South Gateway Water Supply  
 Brockway Engineering  
 Community Housing South Sub District

Residential indoor water use		69.3	gal/person/day		% of Gross area that will be Roads		15%
Persons per unit		3			Commons area per Unit	1000	ft <sup>2</sup>
Irrigation Efficiency		65%			Backyard area per Unit	500	ft <sup>2</sup>
<b>Sub-District</b>	Acres	15 Units/Acre	12 Units/Acre	8 Units/Acre	5 Units/Acre		
	Units	196	157	105	65		
<b>CH-S</b>	Acres	13.08	196	157	105	65	

Average unit foot print per unit (Unit/Storage/Parking) 2000 ft<sup>2</sup>

Single Structure Units		9.0	7.2	4.8	3.0		
		6.8	5.4	3.6	2.3		
		2.0	2.0	2.0	2.0		
		-4.6	-1.5	2.7	5.9		

Acres for Community Housing  
 Acres for Common Area and Backyards  
 Acres for Roads, Walkways  
 Remaining Acres

Average unit foot print per unit (Unit/Storage/Parking) 900 ft<sup>2</sup>  
 (Based on McManville Creek 5 Unit Structures)

Two Level Duplex's		15 Units/Acre	12 Units/Acre	8 Units/Acre	5 Units/Acre		
		4.1	3.2	2.2	1.4		
		6.8	5.4	3.6	2.3		
		2.0	2.0	2.0	2.0		
		0.3	2.5	5.4	7.5		

Acres for Community Housing  
 Acres for Common Area and Backyards  
 Acres for Roads, Walkways, Driveways  
 Remaining Acres

**Irrigation Water Demand**

Halley Ranger Str (NWS -- 103942)  
<http://data.kimberly-uidaho.edu/ET/Idaho/etcovstats.py?station=103942&cover=17&stats=Derfict>  
 ET/Idaho 2012 -- Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho Pdf  
 Grass - Turf (lawns) - Irrigated  
 597 mm  
 1.96 ft.

mm/day	January	February	March	April	May	June	July	August	September	October	November	December	Total
day/month	31	28	31	30	31	30	31	31	30	31	-0.25	-0.06	365
ft/month	0.01	0.02	0.04	0.14	2.12	4.07	5.51	4.5	2.76	0.35	0.04		1.96

**Total Water Demand**

Single Structures		Estimated Irrigation Requirement for Common and Backyard Area												Total	
5 Units/Acre		January	February	March	April	May	June	July	August	September	October	November	December	Acres	
Acres-Feet		0.0 AF	0.7 AF	1.4 AF	1.9 AF	1.6 AF	1.9 AF	1.6 AF	0.9 AF	0.1 AF	0.1 AF	0.9 AF	0.1 AF		
Gallons per day		519 gpd	7852 gpd	15075 gpd	20409 gpd	16668 gpd	10223 gpd	1296 gpd							
															<b>6.8 AFA</b>

Daily Potable and Irrigation Demand	13597 gpd	13597 gpd	13597 gpd	14115 gpd	21449 gpd	28672 gpd	34005 gpd	30264 gpd	23820 gpd	14893 gpd	13597 gpd	13597 gpd	9 gpm		
	9 gpm	9 gpm	9 gpm	10 gpm	15 gpm	20 gpm	24 gpm	21 gpm	17 gpm	10 gpm	9 gpm	9 gpm			
Annual Demand for Potable Water															<b>15.2 AFA</b>
Annual Demand for Irrigation Water															<b>6.8 AFA</b>
Total Annual Demand of Potable and Irrigation Water															<b>22.0 AFA</b>

**8 Units/Acre**

Single Structures		Estimated Irrigation area												Total	
8 Units/Acre		January	February	March	April	May	June	July	August	September	October	November	December	Acres	
Acres-Feet-Annually		0.1 AF	1.2 AF	2.2 AF	3.1 AF	2.5 AF	3.1 AF	2.5 AF	1.5 AF	0.2 AF	0.2 AF	1.5 AF	0.2 AF		
Gallons per day		830 gpd	12564 gpd	24120 gpd	32654 gpd	26669 gpd	16357 gpd	2074 gpd							
															<b>10.8 AFA</b>

Daily Potable and Irrigation Demand	21755 gpd	21755 gpd	21755 gpd	22584 gpd	34318 gpd	45875 gpd	54409 gpd	48423 gpd	38111 gpd	23829 gpd	21755 gpd	21755 gpd	15 gpm		
	15 gpm	15 gpm	15 gpm	16 gpm	24 gpm	32 gpm	38 gpm	34 gpm	28 gpm	17 gpm	15 gpm	15 gpm			
Annual Demand for Potable Water															<b>24.4 AFA</b>
Annual Demand for Irrigation Water															<b>10.8 AFA</b>
Total Annual Demand of Potable and Irrigation Water															<b>35.2 AFA</b>

**Single Structures**

12 Units/Acre		Estimated Irrigation Requirement for Common and Backyard Area												Total	
12 Units/Acre		January	February	March	April	May	June	July	August	September	October	November	December	Acres	
Acres-Feet-Annually		0.1 AF	1.8 AF	3.3 AF	4.7 AF	3.8 AF	4.7 AF	3.8 AF	2.3 AF	0.3 AF	0.3 AF	2.3 AF	0.3 AF		
Gallons per day		1245 gpd	18846 gpd	36180 gpd	48981 gpd	40003 gpd	24535 gpd	3111 gpd							
															<b>16.3 AFA</b>

Daily Potable and Irrigation Demand	32632 gpd	32632 gpd	32632 gpd	33877 gpd	51478 gpd	68812 gpd	81613 gpd	72635 gpd	57167 gpd	35743 gpd	32632 gpd	32632 gpd	23 gpm		
	23 gpm	23 gpm	23 gpm	24 gpm	36 gpm	48 gpm	57 gpm	50 gpm	40 gpm	25 gpm	23 gpm	23 gpm			
Annual Demand for Potable Water															<b>36.6 AFA</b>
Annual Demand for Irrigation Water															<b>16.3 AFA</b>
Total Annual Demand of Potable and Irrigation Water															<b>52.8 AFA</b>

**Single Structures**

15 Units/Acre		Estimated Irrigation Requirement for Common and Backyard Area												Total	
15 Units/Acre		January	February	March	April	May	June	July	August	September	October	November	December	Acres	
Acres-Feet-Annually		0.1 AF	2.2 AF	4.2 AF	5.8 AF	4.8 AF	5.8 AF	4.8 AF	2.8 AF	0.4 AF	0.4 AF	2.8 AF	0.4 AF		
Gallons per day		1556 gpd	23557 gpd	45225 gpd	61226 gpd	50003 gpd	30669 gpd	3889 gpd							
															<b>20.3 AFA</b>

Daily Potable and Irrigation Demand	40790 gpd	40790 gpd	40790 gpd	42346 gpd	63477 gpd	86015 gpd	102016 gpd	90793 gpd	71459 gpd	44679 gpd	40790 gpd	40790 gpd	28 gpm		
	28 gpm	28 gpm	28 gpm	29 gpm	45 gpm	60 gpm	71 gpm	63 gpm	50 gpm	31 gpm	28 gpm	28 gpm			
Annual Demand for Potable Water															<b>45.7 AFA</b>
Annual Demand for Irrigation Water															<b>20.3 AFA</b>
Total Annual Demand of Potable and Irrigation Water															<b>66.0 AFA</b>



Single Structure Units			
15 Units/Acre	12 Units/Acre	8 Units/Acre	5 Units/Acre
<b>Annual Demand for Potable Water</b>			
		24.4 AFA	15.2 AFA
<b>Annual Demand for Irrigation Water</b>			
		10.8 AFA	6.8 AFA
<b>Total Annual Demand of Potable and Irrigation Water</b>			
		35.2 AFA	22.0 AFA

Two Level Duplex's				
15 Units/Acre	12 Units/Acre	8 Units/Acre	5 Units/Acre	
<b>Annual Demand for Potable Water</b>				
45.7 AFA	36.6 AFA	24.4 AFA	15.2 AFA	
<b>Annual Demand for Irrigation Water</b>				
20.3 AFA	16.3 AFA	10.8 AFA	6.8 AFA	
<b>Total Annual Demand of Potable and Irrigation Water</b>				
66.0 AFA	52.8 AFA	35.2 AFA	22.0 AFA	

**Table 3**

City of Ketchum  
 South Gateway Water Supply  
 Brockway Engineering  
 Community Housing West Sub District

		Residential indoor water use	69.3	gall/person/day			% of Gross area that will be Roads	15%
		Persons per unit	3				Commons area per Unit	1000
		Irrigation Efficiency	65%				Backyard area per Unit	500
								ft <sup>2</sup>
								ft <sup>3</sup>
<b>Sub-District</b>	Acres	15 Units/Acre	12 Units/Acre	8 Units/Acre	5 Units/Acre	15 Units/Acre	12 Units/Acre	8 Units/Acre
<b>CH-W</b>	13	195	156	104	65	40541	32432	21622
		Units	Units	Units	Units	Potable gpd	Potable gpd	Potable gpd
						13514		

Average unit foot print per unit (Unit/Storage/Parking)		2000	ft <sup>2</sup>
Average unit foot print per unit (Unit/Storage/Parking)		900	ft <sup>2</sup>
(Based on McHanville Creek 5 Unit Structures)			
		15 Units/Acre	12 Units/Acre
		4.0	3.2
		6.7	5.4
		2.0	2.0
		4.6	1.5
		2.7	2.7

Average unit foot print per unit (Unit/Storage/Parking)		900	ft <sup>2</sup>
(Based on McHanville Creek 5 Unit Structures)			
		15 Units/Acre	12 Units/Acre
		4.0	3.2
		6.7	5.4
		2.0	2.0
		0.3	2.5
		5.3	7.5

**Irrigation Water Demand**  
 Halley/ Ranger Stn (NWS -- 103942)  
<http://data.kimberly-uidaho.edu/ETIdaho/stcivstats.pv?station=103942&cover=17&stats=Deficit>  
 ETIdaho 2012 -- Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho Pdf  
 Grass - Turf (lawns) - Irrigated  
 597 mm  
 1.96 ft.

	January	February	March	April	May	June	July	August	September	October	November	December	Total
mm/day	-0.01	0.02	0.04	0.14	2.12	4.07	5.51	4.5	2.76	0.35	-0.25	-0.06	365
day/month	31	28	31	30	31	30	31	31	30	31	30	31	1.96
ft/month	0.01	0.22	0.40	0.01	0.22	0.40	0.56	0.46	0.27	0.04	0.04	0.04	1.96



**Two Level Duplex's**

5 Units/Acre		Estimated Irrigation area		2.2 Acres	
Month	Estimated Irrigation area	Month	Estimated Irrigation area	Month	Estimated Irrigation area
January	0.0 AF	April	0.7 AF	June	1.4 AF
February	515 gpd	May	7804 gpd	July	14983 gpd
March		June	1.4 AF	August	20284 gpd
April		July	1.9 AF	September	16566 gpd
May		August	1.6 AF	October	10160 gpd
June		September	0.9 AF	November	1288 gpd
July		October	0.1 AF	December	
August		November			
September		December			
October					
November					
December					
Total		6.7 AFA			

Daily Potable and Irrigation Demand		13514 gpd											
Month	Demand	Month	Demand	Month	Demand	Month	Demand	Month	Demand	Month	Demand	Month	Demand
January	9 gpm	February	9 gpm	March	9 gpm	April	10 gpm	May	15 gpm	June	20 gpm	July	23 gpm
August	21 gpm	September	21 gpm	October	21 gpm	November	21 gpm	December	21 gpm	January	21 gpm	February	21 gpm

Annual Demand for Potable Water		6.7 AFA	
Annual Demand of Potable and Irrigation Water		21.9 AFA	

**Two Level Duplex's**

8 Units/Acre		Estimated Irrigation Requirement for Common and Backyard Area		3.6 Acres	
Month	Estimated Irrigation Requirement for Common and Backyard Area	Month	Estimated Irrigation Requirement for Common and Backyard Area	Month	Estimated Irrigation Requirement for Common and Backyard Area
January	0.1 AF	April	1.2 AF	June	2.2 AF
February	825 gpd	May	12487 gpd	July	23973 gpd
March		June	2.2 AF	August	32454 gpd
April		July	3.1 AF	September	26505 gpd
May		August	2.5 AF	October	16257 gpd
June		September	1.5 AF	November	2062 gpd
July		October	0.2 AF	December	
August		November			
September		December			
October					
November					
December					
Total		10.8 AFA			

Daily Potable and Irrigation Demand		21622 gpd											
Month	Demand	Month	Demand	Month	Demand	Month	Demand	Month	Demand	Month	Demand	Month	Demand
January	15 gpm	February	15 gpm	March	15 gpm	April	16 gpm	May	24 gpm	June	32 gpm	July	38 gpm
August	48 gpm	September	48 gpm	October	48 gpm	November	48 gpm	December	48 gpm	January	48 gpm	February	48 gpm

Annual Demand for Potable Water		24.2 AFA	
Annual Demand of Potable and Irrigation Water		35.0 AFA	

**Two Level Duplex's**

12 Units/Acre		Estimated Irrigation Requirement for Common and Backyard Area		5.4 Acres	
Month	Estimated Irrigation Requirement for Common and Backyard Area	Month	Estimated Irrigation Requirement for Common and Backyard Area	Month	Estimated Irrigation Requirement for Common and Backyard Area
January	0.1 AF	April	1.8 AF	June	3.3 AF
February	1237 gpd	May	18730 gpd	July	35959 gpd
March		June	3.3 AF	August	48682 gpd
April		July	4.6 AF	September	39758 gpd
May		August	3.8 AF	October	24385 gpd
June		September	2.2 AF	November	3092 gpd
July		October	0.3 AF	December	
August		November			
September		December			
October					
November					
December					
Total		16.2 AFA			

Daily Potable and Irrigation Demand		32432 gpd											
Month	Demand	Month	Demand	Month	Demand	Month	Demand	Month	Demand	Month	Demand	Month	Demand
January	23 gpm	February	23 gpm	March	23 gpm	April	23 gpm	May	36 gpm	June	47 gpm	July	56 gpm
August	77 gpm	September	77 gpm	October	77 gpm	November	77 gpm	December	77 gpm	January	77 gpm	February	77 gpm

Annual Demand for Potable Water		36.3 AFA	
Annual Demand of Potable and Irrigation Water		52.5 AFA	

**Two Level Duplex's**

15 Units/Acre		Estimated Irrigation Requirement for Common and Backyard Area		6.7 Acres	
Month	Estimated Irrigation Requirement for Common and Backyard Area	Month	Estimated Irrigation Requirement for Common and Backyard Area	Month	Estimated Irrigation Requirement for Common and Backyard Area
January	0.1 AF	April	2.2 AF	June	4.1 AF
February	1546 gpd	May	23413 gpd	July	60852 gpd
March		June	4.1 AF	August	49698 gpd
April		July	5.8 AF	September	30481 gpd
May		August	4.7 AF	October	3865 gpd
June		September	2.8 AF	November	
July		October	0.4 AF	December	
August		November			
September		December			
October					
November					
December					
Total		20.2 AFA			

Daily Potable and Irrigation Demand		40541 gpd											
Month	Demand	Month	Demand	Month	Demand	Month	Demand	Month	Demand	Month	Demand	Month	Demand
January	28 gpm	February	28 gpm	March	28 gpm	April	29 gpm	May	44 gpm	June	59 gpm	July	70 gpm
August	103 gpm	September	103 gpm	October	103 gpm	November	103 gpm	December	103 gpm	January	103 gpm	February	103 gpm

Annual Demand for Potable Water		45.4 AFA	
Annual Demand of Potable and Irrigation Water		65.6 AFA	

# Table 4

South Gateway Water Supply  
 Brockway Engineering  
 Light Industrial Sub District

Service Station	15	gal/employee/day	4	employees/unit
Office	16	gal/employee/day	2500	square feet for irrigation/unit
Industrial Building	16	gal/employee/day	65%	irrigation efficiency
Average	15.7	gal/employee/day		
Gotlandia and Randall Businesses		4 Units		
Daily Water Demand		251 gpd		

## Potable Water Demand

Sub-District	Acres	15 Units/Acre Units	12 Units/Acre Units	8 Units/Acre Units	5 Units/Acre Units
CH-LI	3.61	54	43	29	18

## Total Water Demand

	15 Units/Acre	12 Units/Acre	8 Units/Acre	5 Units/Acre
Proposed Build Out	3393 gpd	2715 gpd	1810 gpd	1131 gpd
Existing Businesses	251 gpd	251 gpd	251 gpd	251 gpd
Total Daily Demand	3644 gpd	2965 gpd	2060 gpd	1382 gpd
	2.5 gpm	2.1 gpm	1.4 gpm	1.0 gpm
Annual Demand for Potable Water	4.1 AFA	3.3 AFA	2.3 AFA	1.5 AFA

Appendix 5:  
Peak Water Requirement Calculations

# Table 1

## PEAK WATER REQUIREMENTS ESTIMATION RESIDENTIAL SUBDIVISION -- POTABLE AND IRRIGATION DEMAND

PROJECT: City of Ketchum South Gateway Water Supply  
Brockway Engineering 12/5/2012

### DOMESTIC

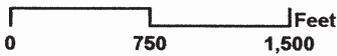
Number of units			
Max Community Housing Density	15 Units/Acre	986 Units	2958 Persons
Light Industrial	15 Units/Acre	58 Units	233 Employees
Average per-capita demand		69.3 gpcd	
Average per-employee demand		15.7 gpcd	
Average daily demand		208662 gpd	
Average continuous pumping demand		145 gpm	
		0.32 cfs	
Total annual withdrawal		233.7 acre-feet/year	
Consumptive use fraction		0.15	
Total consumptive use		35.1 acre-feet/year	
Max day : average factor		3	
Peak hour : average factor		5.1	
Max daily withdrawal		625986 gpd	
Max daily continuous withdrawal		435 gpm	
Peak hourly withdrawal		739.0 gpm	
		1.65 cfs	

### IRRIGATION

Project irrigated area - lots	0 acres	
Project irrigated area - common areas	34.0 acres	
Project irrigated area - TOTAL	34.0 acres	
Seasonal ET - pasture (University of Idaho, 2012)	597 mm	
	23.50 inches or	66.5 acre-feet
Irrigation application efficiency	65.0%	
Irrigation water requirement	36.16 inches	
Total annual irrigation volume	102.3 acre-feet/year	
Peak monthly ET - July	5.51 mm/day	
	0.22 in/day	
Standard deviation of peak ET	0.58 mm/day	
	0.02 in/day	
Design probability level	95%	
Peak day : peak month factor	1.4	
Design peak ET	0.356 in/day	
Design peak application rate	0.548 in/day	
Design peak flow rate	0.78 cfs	
	351.0 gpm	
	0.023 cfs/acre	

Total potable and irrigation demand	336.1 acre-feet/year
Total potable and irrigation consumptive use	101.6 acre-feet/year
Average continuous demand for potable and irrigation demand	495.9 gpm
Peak hourly demand for potable and irrigation demand	1090.0 gpm

Appendix 6:  
Theis Multiple Well Analysis  
Average Daily Demand  
Peak Hourly Demand



### CITY OF KETCHUM - SOUTHERN GATEWAY PROPOSED WELL LOCATIONS NAIP 2011 AERIAL

#### LEGEND

-  Observed Wells
-  Proposed Wells
-  twshp
-  Section\_Lines
-  ladesc



# Table 1

## Multiple Well Interference 365 Day Analysis

### Estimated Well Drawdown at target points from multiple pumping wells

Brockway Engineering P.L.L.C.

AQUIFER PROPERTIES BASED ON PUMPING TESTS, USGS

### Ketchum Gateway

#### INPUT

#### AQUIFER PROPERTIES

K=	168.1	FT/DAY	TRANSMISSIVITY=	1.28E+09	FT^2/SEC
K=	0.0019456	CFS/FT^2	TRANSMISSIVITY=	14786.8	FT^2/DAY
K=	1254.03	GPD/FT^2	TRANSMISSIVITY=	110605	GPD/FT
SAT.DEPTH	88.2	FT	STORATIVITY	0.150	

#### HISTORICAL PUMPING

WELL	DIA. IN	Historical CFS	Total CFS	GPM	AFA	Days Pumping
1	12	0.00	0.00	0	0	365
2	10	0.00	0.00	0	0	365
3	10	0.00	0.00	0	0	365
4			0.00	0	0	365
5			0.00	0	0	365
					0	

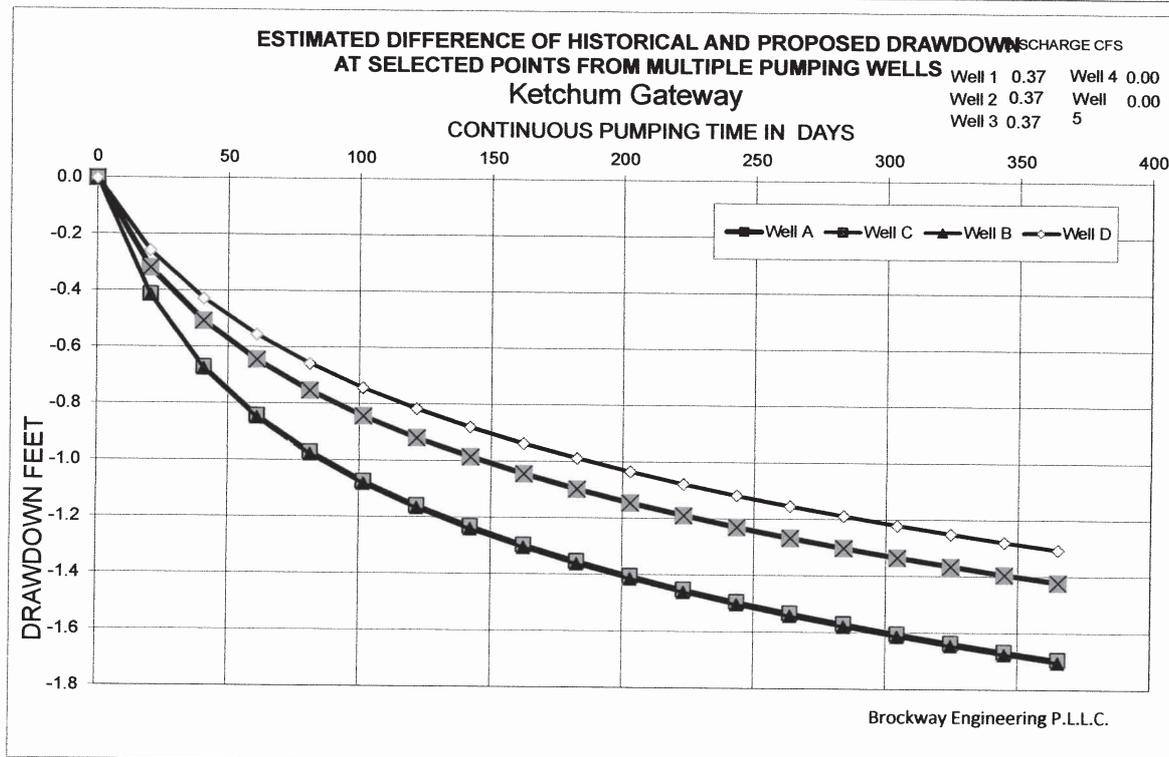
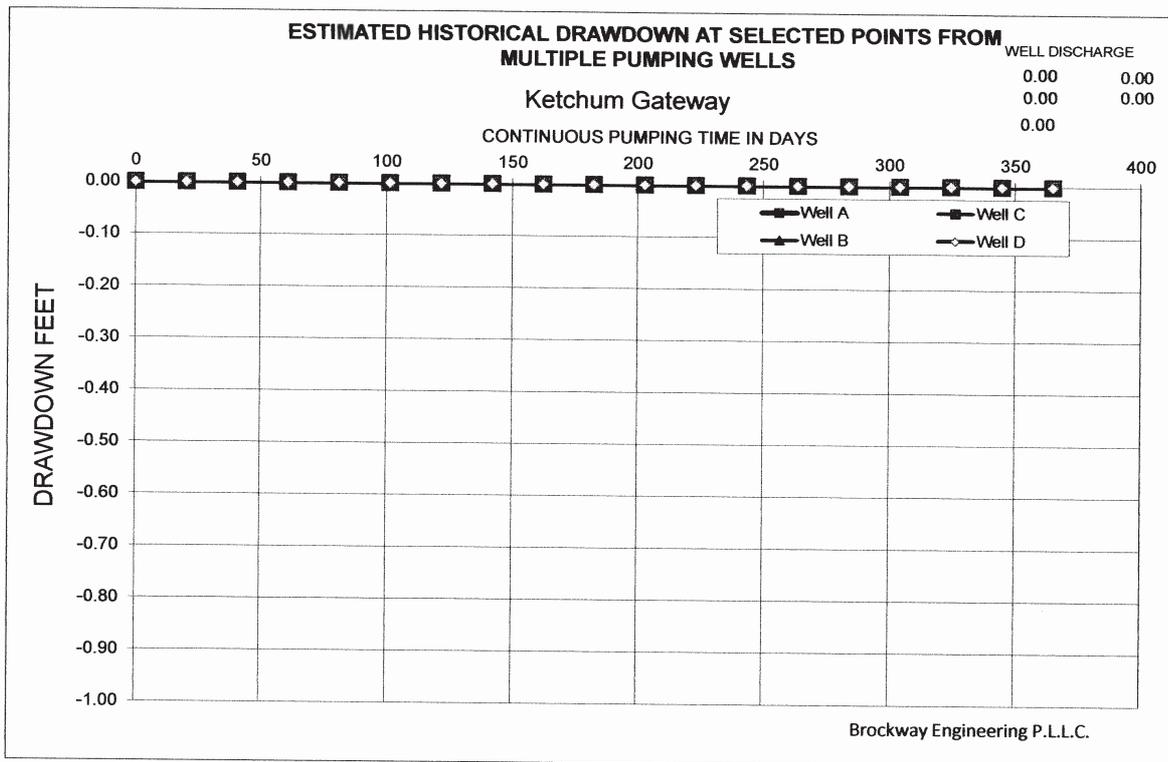
Additional GPM Value **495.9**  
Additional Volume Pumped **797 AFA**

#### PROPOSED PUMPING

WELL	DIA. IN	Historical CFS	Additional CFS	Total CFS	GPM	AFA	Days Pumping
1	12	0.00	0.37	0.37	165	266	365
2	10	0.00	0.37	0.37	165	266	365
3	10	0.00	0.37	0.37	165	266	365
4	0	0.00	0.00	0.00	0	0	365
5	0	0.00	0.00	0.00	0	0	365
					797		

WELL	WELL	TARGET	DIST. FT
1	Well 1	Point A	4470
	Well 1	Point B	2760
	Well 1	Point C	1280
	Well 1	Point D	1180
2	Well 2	Point A	2770
	Well 2	Point B	1380
	Well 2	Point C	1460
	Well 2	Point D	3080
3	Well 3	Point A	1010
	Well 3	Point B	1350
	Well 3	Point C	2850
	Well 3	Point D	4920
4	Well 4	Point A	
	Well 4	Point B	
	Well 4	Point C	
	Well 4	Point D	
5	Well 5	Point A	
	Well 5	Point B	
	Well 5	Point C	
	Well 5	Point D	

**Figure 1 and 2: 365 Day Analysis**



# Table 2

## Multiple Well Interference 12 Day Analysis

### Estimated Well Drawdown at target points from multiple pumping wells

Brockway Engineering P.L.L.C.

AQUIFER PROPERTIES BASED ON PUMPING TESTS, USGS

### Ketchum Gateway

**INPUT**

**AQUIFER PROPERTIES**

K=	168.1	FT/DAY	TRANSMISSIVITY=	1.28E+09	FT^2/SEC
K=	0.0019456	CFS/FT^2	TRANSMISSIVITY=	14786.8	FT^2/DAY
K=	1254.03	GPD/FT^2	TRANSMISSIVITY=	110605	GPD/FT
SAT.DEPTH	88.2	FT	STORATIVITY	0.150	

#### HISTORICAL PUMPING

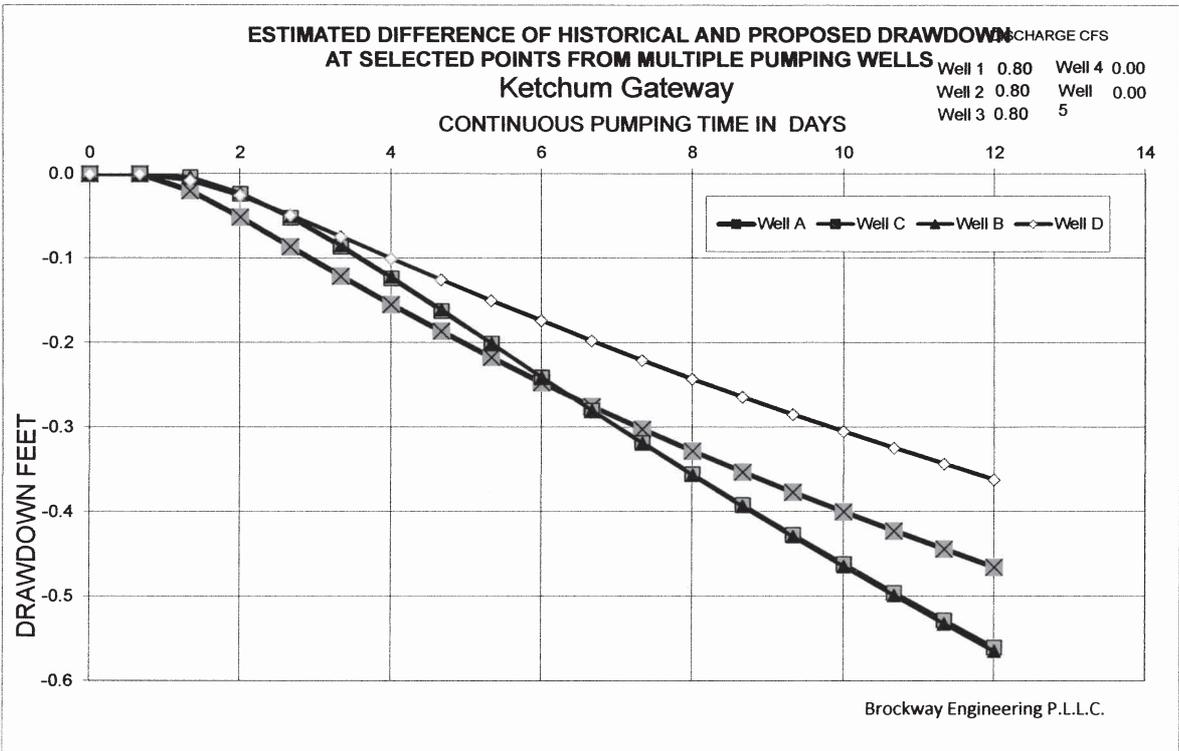
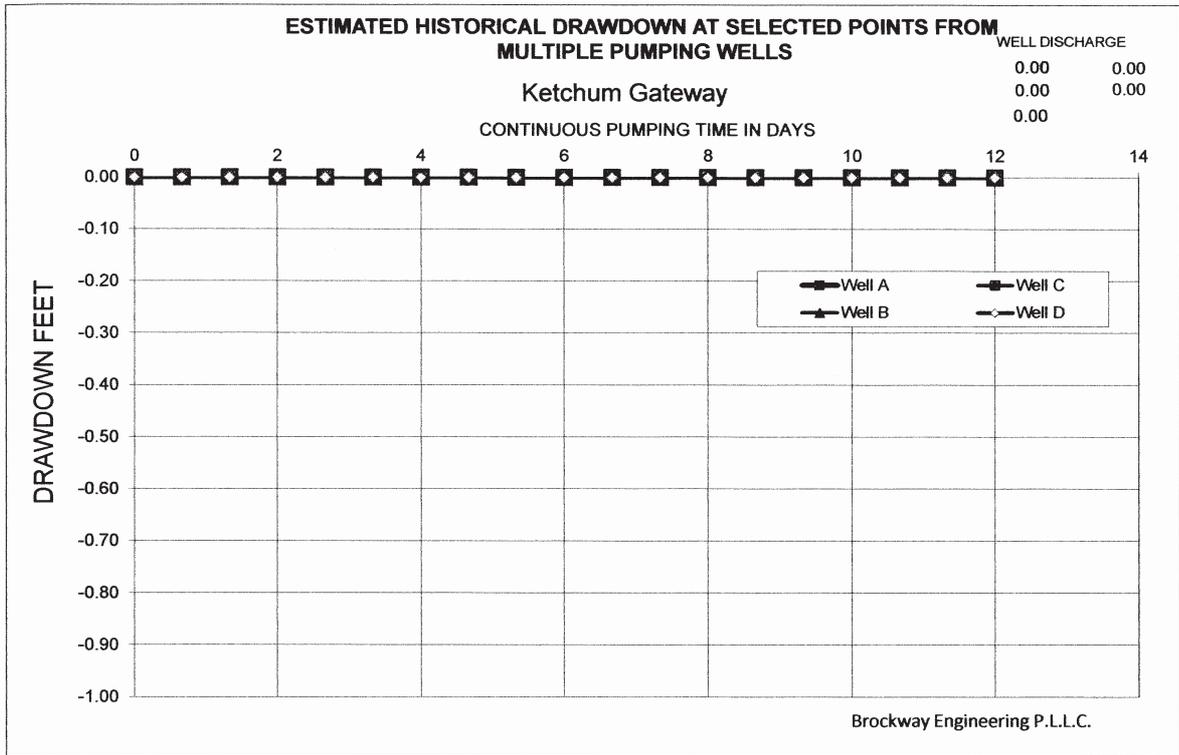
WELL	DIA. IN	Historical CFS	Total CFS	GPM	AFA	Days Pumping
1	12	0.00	0.00	0	0	12.0
2	10	0.00	0.00	0	0	12.0
3	10	0.00	0.00	0	0	12.0
4			0.00	0	0	12.0
5			0.00	0	0	12.0
					0	

#### PROPOSED PUMPING

WELL	DIA. IN	Historical CFS	Additional GPM Value		GPM	AFA	Days Pumping
			Additional CFS	Total CFS			
1	12	0.00	0.80	0.80	361	19	12
2	10	0.00	0.80	0.80	361	19	12
3	10	0.00	0.80	0.80	361	19	12
4	0	0.00	0.00	0.00	0	0	12
5	0	0.00	0.00	0.00	0	0	12
					57	57 AFA	

WELL	WELL	TARGET	DIST. FT
1	Well 1	Point A	4470 Well A
	Well 1	Point B	2760 Well B
	Well 1	Point C	1280 Well C
	Well 1	Point D	1180 Well D
2	Well 2	Point A	2770 Well A
	Well 2	Point B	1380 Well B
	Well 2	Point C	1460 Well C
	Well 2	Point D	3080 Well D
3	Well 3	Point A	1010 Well A
	Well 3	Point B	1350 Well B
	Well 3	Point C	2850 Well C
	Well 3	Point D	4920 Well D
4	Well 4	Point A	Well A
	Well 4	Point B	Well B
	Well 4	Point C	Well C
	Well 4	Point D	Well D
5	Well 5	Point A	Well A
	Well 5	Point B	Well B
	Well 5	Point C	Well C
	Well 5	Point D	Well D

**Figure 3 and 4: 12 Day Analysis**



## Appendix 7:

# Big Wood River Aquifer Water Quality Data Mid Valley Water Company

LAB FEDERAL ID#: ID 00911      LAB SAMPLE # 1042751  
 DATE LAB REC'D SAMPLE: 8/9/2010      DATE REPORTED BY LAB: 10/25/2010  
 COMPLIANCE SAMPLE:  YES      REPLACEMENT SAMPLE   
 NO  
 COLLECTION DATE: 8/9/2010      COLLECTION TIME: 11:07:00 AM  
 (24 hour clock)  
 SAMPLE TYPE:  CO-confirmation       RP-repeat  
 RT-routine       DU-duplicate       SP-special       OTHER: \_\_\_\_\_  
 PWS#: 5070038      PWS NAME: MEADOWS THE  
 SAMPLING POINT/LOCATION: #2W      TAG #/FACILITY ID: \_\_\_\_\_  
 COLLECTOR'S NAME: \_\_\_\_\_      CONTACT PHONE #: \_\_\_\_\_

**PUBLIC DRINKING WATER SYSTEM INORGANIC CHEMICAL (IOC)  
 ANALYSIS REPORT**



Phase II						Phase V									
FRDS	Contaminant	Result*	MCL*	PQL*	Method	Analysis Date	Analyst	FRDS	Contaminant	Result*	MCL*	PQL*	Method	Analysis Date	Analyst
1010	Barium	0.05	2	0.5	3111D			1024	Cyanide		0.2				
1015	Cadmium	<0.0010	0.005	0.0005	3113B			1036	Nickel	<0.05	N/A	0.01	3113B		
1020	Chromium	<0.0010	0.1	0.005	3113B			1074	Antimony	<0.0010	0.006	0.005	200.9		
1035	Mercury	<0.00050	0.002	0.001	245.1			1075	Beryllium	<0.0010	0.004	0.0005	200.9		
1038	Tl (NO2/NO3)		10					1085	Thallium	<0.0010	0.002	0.002	200.9		
1040	Nitrate		10					Other IOCs							
1041	Nitrite		1.0					1005	Arsenic	<0.0020	0.010	0.001	200.8		**
1045	Selenium	<0.0020	0.05	0.005	200.9			1025	Fluoride	0.46	4.0	0.30	300.0		
1094	Asbestos		7 MFL	0.18	100.1*			1052	Sodium	5.7	N/A	0.5	3111B		
<b>Secondary IOCs (optional)</b>															
1002	Aluminum		0.05-0.2	0.1	200.7			1050	Silver		0.1	0.05	3111B		
1003	Ammonia as N			0.05	350.2			1055	Sulfate		250	1	300.0		
1016	Calcium			0.5	3111B			1095	Zinc		5	0.05	3111B		
1017	Chloride		250	0.14	300.0			1905	Color		15c.u.	1	110.2		
1022	Copper		1.0	0.1	3111B			1915	Hardness as CaCO3			5	2340B		
1026†	Conductivity µg/cm			10	120.1			1920	Odor (threshold #)		3	1	140.1		
1027	Hydrogen Sulfide			0.1	8131			1925	pH		6.5-8.5		150.1		
1028	Iron		0.3	0.1	3111B			1927	Alkalinity as CaCO3			5	310.1		
1031	Magnesium			0.2	3111B			1930	Dissolved Solids		500	1	160.1		
1032	Manganese		0.05	0.05	3111B			1997	Langier Index						
1042	Potassium			0.5	3111B			2905	Surfactants			0.1	5540C		
1049	Silica as SiO2			1	200.8			1030	Lead		0.015		3113b		

\*Reported in mg/L unless otherwise noted † = formerly FRDS No. 1926 PQL = Process Quality Limit --- = No analysis performed ND = Not detected within sensitivity of instrument  
 †EPA 600/4-83-043 \*\*Test performed by ANATEK LABS, INC

**COMMENTS:**

MEADOWS THE  
 P. O. BOX 4380  
 KETCHUM, ID 83340

Signature of Laboratory Supervisor \_\_\_\_\_ Date \_\_\_\_\_

LAB FEDERAL ID#: ID 009111      LAB SAMPLE # 644611

DATE LAB REC'D SAMPLE: 8/18/2006      DATE REPORTED BY LAB: 10/26/2006

COMPLIANCE SAMPLE:  YES      REPLACEMENT SAMPLE

NO

COLLECTION DATE: 8/18/2006      COLLECTION TIME: 3:18:00 PM  
(24 hour clock)

SAMPLE TYPE:  CO-confirmation       RP-repeat       OTHER: \_\_\_\_\_  
 RT-routine       DU-duplicate       SP-special

PWS#: 5070038      PWS NAME: MEADOWS THE

SAMPLING POINT/LOCATION: WELL #1      TAG #/FACILITY ID: \_\_\_\_\_

COLLECTOR'S NAME: \_\_\_\_\_      CONTACT PHONE #: \_\_\_\_\_



**MAGIC VALLEY LABS**  
 210 ADDISON AVE, PO BOX 1867  
 TWIN FALLS, ID 83301  
 (208) 733-4250

**PUBLIC DRINKING WATER SYSTEM INORGANIC CHEMICAL (IOC)  
 ANALYSIS REPORT**

Phase II						Phase V					
FRDS	Contaminant	Result*	MCL*	PQL*	Method	FRDS	Contaminant	Result*	MCL*	PQL*	Method
1010	Barium	2	0.5		3111D	1024	Cyanide	0.2			
1015	Cadmium	0.005	0.0005		3113B	1036	Nickel	<0.01	N/A	0.01	3113B
1020	Chromium	0.1	0.005		3113B	1074	Antimony	<0.005	0.005	0.005	200.9
1035	Mercury	0.002	0.001		245.1	1075	Beryllium	<0.0005	0.004	0.0005	200.9
1038	Ti (NO2/NO3)	10				1085	Thallium	<0.002	0.002	0.002	200.9
1040	Nitrate	10				Other IOCs					
1041	Nitrite	1.0				1005	Arsenic	<0.005	0.010	0.001	200.8
1045	Selenium	0.05	0.005		200.9	1025	Fluoride	4.0	4.0	0.30	300.0
1094	Asbestos	7 MFL	0.18		100.1*	1052	Sodium	5.55	N/A	0.5	3111B
<b>Secondary IOCs (optional)</b>											
1002	Aluminum	0.05-0.2	0.1		200.7	1050	Silver	0.1	0.1	0.05	3111B
1003	Ammonia as N		0.05		350.2	1055	Sulfate	250	250	1	300.0
1016	Calcium		0.5		3111B	1095	Zinc	5	5	0.05	3111B
1017	Chloride	250	0.14		300.0	1905	Color	15c.u.	1	1	110.2
1022	Copper	1.0	0.1		3111B	1915	Hardness as CaCO3	5	5	5	2340B
1026†	Conductivity µg/cm		10		120.1	1920	Odor (threshold #)	3	3	1	140.1
1027	Hydrogen Sulfide		0.1		8131	1925	pH	6.5-8.5			150.1
1028	Iron	0.3	0.1		3111B	1927	Alkalinity as CaCO3	5		5	310.1
1031	Magnesium		0.2		3111B	1930	Dissolved Solids	500		1	160.1
1032	Manganese	0.05	0.05		3111B	1997	Langlier Index				
1042	Potassium		0.5		3111B	2905	Surfactants	0.1		0.1	5540C
1049	Silica as SiO2		1		200.8	1030	Lead	0.015			3113b

\*Reported in mg/L unless otherwise noted      † = formerly FRDS No. 1926      PQL = Process Quality limit      --- = No analysis performed      ND = Not detected within sensitivity of instrument  
 †EPA 600/4-83-043      \*\*Test performed by ANATEK LABS, INC

**COMMENTS:**

MEADOWS THE  
 P.O. BOX 4380  
 KETCHUM, ID 83340

Signature of Laboratory Supervisor \_\_\_\_\_ Date \_\_\_\_\_

LAB FEDERAL ID#: ID 00911	LAB SAMPLE # 644601
DATE LAB REC'D SAMPLE: 8/18/2006	DATE REPORTED BY LAB: 9/1/2006
COMPLIANCE SAMPLE: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	REPLACEMENT SAMPLE <input type="checkbox"/>
COLLECTION DATE: 8/18/2006	COLLECTION TIME: 3:18:00 PM
SAMPLE TYPE <input checked="" type="checkbox"/> RT-routine <input type="checkbox"/> DU-duplicate <input type="checkbox"/> CO-confirmation <input type="checkbox"/> RP-repeat <input type="checkbox"/> SP-special <input type="checkbox"/> OTHER: _____	
PWS#: 5070038	PWS NAME: MEADOWS THE
SAMPLING POINT/LOCATION: WELL #1	TAG#/FACILITY ID:
COLLECTOR'S NAME:	JURISDICTION:



**MAGIC VALLEY LABS**  
 210 ADDISON AVE, PO BOX 1867  
 TWIN FALLS, ID 83301  
 (208) 733-4250

**PUBLIC DRINKING WATER SYSTEM INORGANIC CHEMICAL (IOC) ANALYSIS REPORT**

FRDS	Contaminant	Result*	Phase II				FRDS	Contaminant	Result*	Phase V				
			MCL*	PQL*	Method	Analysis Date				Analyst	MCL*	PQL*	Method	Analysis Date
1010	Barium		2	0.5	3111D		1024	Cyanide		0.2				
1015	Cadmium		0.005	0.0005	3113B		1036	Nickel		N/A	0.01	3113B		
1020	Chromium		0.1	0.005	3113B		1074	Antimony		0.006	0.005	200.9		
1035	Mercury		0.002	0.001	245.1		1075	Beryllium		0.004	0.0005	200.9		
1038	TU (NO2/NO3)		10				1085	Thallium		0.002	0.002	200.9		
1040	Nitrate	0.32	10	0.30	300.0	8/30/2006								
1041	Nitrite		1.0	0.20	300.0					0.010	0.005	200.9		
1045	Selenium		0.05	0.005	200.9		1025	Fluoride		4.0	0.02	300.0		
1094	Asbestos		7 MFL	0.18	100.1*		1052	Sodium		N/A	0.5	3111B		

\*Reported in µg/L unless otherwise noted † = formerly FRDS No. 1926 PQL = Process Quality limit --- = No analysis performed  
 ND = Not detected within sensitivity of instrument

Signature of Laboratory Supervisor \_\_\_\_\_ Date \_\_\_\_\_

MEADOWS THE  
 P.O. BOX 4380  
 KETCHUM, ID 83340

MEADOWS THE  
 P.O. BOX 4380  
 KETCHUM, ID 83340

LAB FEDERAL ID#: ID 00911	LAB SAMPLE # 773971
DATE LAB REC'D SAMPLE: 10/23/2007	DATE REPORTED BY LAB: 11/11/2007
COMPLIANCE SAMPLE: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	REPLACEMENT SAMPLE <input type="checkbox"/>
COLLECTION DATE: 10/23/2007	COLLECTION TIME: 6:45:00 AM
SAMPLE TYPE <input checked="" type="checkbox"/> RT-routine <input type="checkbox"/> CO-confirmation <input type="checkbox"/> DU-duplicate	<input type="checkbox"/> RP-repeat <input type="checkbox"/> SP-special <input type="checkbox"/> OTHER: _____
PWS#: 5070038	PWS NAME: MEADOWS THE
SAMPLING POINT/LOCATION: WELL TAP	TAG #/FACILITY ID:
COLLECTOR'S NAME: CORY CRESS	JURISDICTION:



**MAGIC VALLEY LABS**  
 210 ADDISON AVE, PO BOX 1867  
 TWIN FALLS, ID 83301  
 (208) 733-4250

**PUBLIC DRINKING WATER SYSTEM INORGANIC CHEMICAL (IOC) ANALYSIS REPORT**

FRDS	Contaminant	Result*	Phase II			Method	Analysis Date	Analyst	FRDS	Contaminant	Result*	Phase V			Method	Analysis Date	Analyst
			MCL*	PQL*	Method							MCL*	PQL*	Method			
1010	Barium		2	0.5	3111D				1024	Cyanide		0.2					
1015	Cadmium		0.005	0.0005	3113B				1036	Nickel		N/A	0.01	3113B			
1020	Chromium		0.1	0.005	3113B				1074	Antimony		0.006	0.005	200.9			
1035	Mercury		0.002	0.001	245.1				1075	Beryllium		0.004	0.0005	200.9			
1038	Ti (NO2/NO3)		10						1085	Thallium		0.002	0.002	200.9			
1040	Nitrate	0.48	10	0.30	300.0	10/23/2007	JH					Other IOCs					
1041	Nitrite		1.0	0.20	300.0				1005	Arsenic		0.010	0.005	200.9			
1045	Selenium		0.05	0.005	200.9				1025	Fluoride		4.0	0.02	300.0			
1094	Asbestos		7 MFL	0.18	100.1*				1052	Sodium		N/A	0.5	3111B			

\* Reported in mg/L unless otherwise noted † = formerly FRDS No. 1926 PQL = Process Quality limit --- = No analysis performed  
 ND = Not detected within sensitivity of instrument

Signature of Laboratory Supervisor \_\_\_\_\_ Date \_\_\_\_\_

MEADOWS THE  
 P.O. BOX 4380  
 KETCHUM, ID 83340

MEADOWS THE  
 P.O. BOX 4380  
 KETCHUM, ID 83340

LAB FEDERAL ID#: ID 00911	LAB SAMPLE # 854401
DATE LAB REC'D SAMPLE: 8/12/2008	DATE REPORTED BY LAB: 8/19/2008
COMPLIANCE SAMPLE: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	REPLACEMENT SAMPLE <input type="checkbox"/>
COLLECTION DATE: 8/12/2008	COLLECTION TIME: 6:36:00 AM
SAMPLE TYPE: <input type="checkbox"/> CO-confirmation <input checked="" type="checkbox"/> RT-routine <input type="checkbox"/> DU-duplicate	<input type="checkbox"/> RP-repeat <input type="checkbox"/> SP-special <input type="checkbox"/> OTHER: _____
PWS#: 5070038	PWS NAME: MEADOWS THE
SAMPLING POINT/LOCATION: IWIN	TAG #/FACILITY ID:
COLLECTOR'S NAME:	JURISDICTION:



**MAGIC VALLEY LABS**  
 210 ADDISON AVE, PO BOX 1867  
 TWIN FALLS, ID 83301  
 (208) 733-4250

**PUBLIC DRINKING WATER SYSTEM INORGANIC CHEMICAL (IOC) ANALYSIS REPORT**

FRDS	Contaminant	Result*	Phase II				FRDS	Contaminant	Result*	Phase V				
			MCL*	PQL*	Method	Analysis Date				Analyst	MCL*	PQL*	Method	Analysis Date
1010	Barium		2	0.5	3111D		Cyanide		0.2					
1015	Cadmium		0.005	0.0005	3113B	1024	Nickel		N/a	0.01	3113B			
1020	Chromium		0.1	0.005	3113B	1036	Antimony		0.006	0.005	200.9			
1035	Mercury		0.002	0.001	245.1	1074	Beryllium		0.004	0.0005	200.9			
1038	Tl (NO2/NO3)		10			1075	Thallium		0.002	0.002	200.9			
1040	Nitrate	0.40	10	0.30	300.0	1085	Other IOCs							
1041	Nitrite		1.0	0.20	300.0		Arsenic		0.010	0.005	200.9			
1045	Selenium		0.05	0.005	200.9	1025	Fluoride		4.0	0.02	300.0			
1094	Asbestos		7 MFL	0.18	100.1*	1052	Sodium		N/a	0.5	3111B			

\*Reported in mg/L unless otherwise noted † = formerly FRDS No. 1926 PQL = Process Quality limit --- = No analysis performed  
 ND = Not detected within sensitivity of instrument

Signature of Laboratory Supervisor \_\_\_\_\_ Date \_\_\_\_\_

MEADOWS THE  
 P.O. BOX 4380  
 KETCHUM, ID 83340

MEADOWS THE  
 P.O. BOX 4380  
 KETCHUM, ID 83340

LAB FEDERAL ID#: ID 00911	LAB SAMPLE # 967961
DATE LAB REC'D SAMPLE: 10/27/2009	DATE REPORTED BY LAB: 11/4/2009
COMPLIANCE SAMPLE: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	REPLACEMENT SAMPLE <input type="checkbox"/>
COLLECTION DATE: 10/27/2009	COLLECTION TIME: 8:05:00 AM
SAMPLE TYPE <input type="checkbox"/> CO-confirmation <input type="checkbox"/> RT-routine <input type="checkbox"/> DU-duplicate	<input type="checkbox"/> RP-repeat <input type="checkbox"/> SP-special <input type="checkbox"/> OTHER: _____
PWS#: 5070038	PWS NAME: MEADOWS THE
SAMPLING POINT/LOCATION: #2 W WELL TAP	TAG #/FACILITY ID:
COLLECTOR'S NAME:	JURISDICTION:



**MAGIC VALLEY LABS**  
 210 ADDISON AVE, PO BOX 1867  
 TWIN FALLS, ID 83301  
 (208) 733-4250

**PUBLIC DRINKING WATER SYSTEM INORGANIC CHEMICAL (IOC) ANALYSIS REPORT**

FRDS	Contaminant	Result*	Phase II			Method	Analysis Date	Analyst	FRDS	Contaminant	Result*	Phase V			Method	Analysis Date	Analyst
			MCL*	PQL*								MCL*	PQL*				
1010	Barium		2	0.5		3111D			1024	Cyanide		0.2					
1015	Cadmium		0.005	0.0005		3113B			1036	Nickel		N/A	0.01		3113B		
1020	Chromium		0.1	0.005		3113B			1074	Antimony		0.006	0.005		200.9		
1035	Mercury		0.002	0.001		245.1			1075	Beryllium		0.004	0.0005		200.9		
1038	Tl (NO <sub>2</sub> /NO <sub>3</sub> )		10						1085	Thallium		0.002	0.002		200.9		
1040	Nitrate	0.34	10	0.30		300.0	10/27/2009	JB	Other IOCs								
1041	Nitrite		1.0	0.20		300.0			1005	Arsenic		0.010	0.005		200.9		
1045	Selenium		0.05	0.005		200.9			1026	Fluoride		4.0	0.02		300.0		
1094	Asbestos		7 MFL	0.18		100.1*			1052	Sodium		N/A	0.5		3111B		

\*Reported in mg/L unless otherwise noted † = formerly FRDS No. 1926 PQL = Process Quality limit --- = No analysis performed  
 ND = Not detected within sensitivity of instrument

Signature of Laboratory Supervisor \_\_\_\_\_ Date \_\_\_\_\_

MEADOWS THE  
 P.O. BOX 4380  
 KETCHUM, ID 83340

MEADOWS THE  
 P.O. BOX 4380  
 KETCHUM, ID 83340

LAB FEDERAL ID#: ID 00911	LAB SAMPLE # 1042741
DATE LAB REC'D SAMPLE: 8/9/2010	DATE REPORTED BY LAB: 11/11/2010
COMPLIANCE SAMPLE: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	REPLACEMENT SAMPLE <input type="checkbox"/>
COLLECTION DATE: 8/9/2010	COLLECTION TIME: 11:07:00 AM
SAMPLE TYPE: <input type="checkbox"/> CO-confirmation <input checked="" type="checkbox"/> RT-routine <input type="checkbox"/> DU-duplicate	<input type="checkbox"/> RP-repeat <input type="checkbox"/> SP-special <input type="checkbox"/> OTHER: _____
PWS#: 5070038	PWS NAME: MEADOWS THE
SAMPLING POINT/LOCATION: #1 W	TAG #/FACILITY ID:
COLLECTOR'S NAME:	JURISDICTION:



**MAGIC VALLEY LABS**  
 210 ADDISON AVE, PO BOX 1867  
 TWIN FALLS, ID 83301  
 (208) 733-4250

**PUBLIC DRINKING WATER SYSTEM INORGANIC CHEMICAL (IOC) ANALYSIS REPORT**

FRDS	Contaminant	Result*	Phase II			Method	Analysis Date	Analyst	FRDS	Contaminant	Result*	Phase V			Method	Analysis Date	Analyst
			MCL*	PQL*								MCL*	PQL*				
1010	Barium	2	0.5		3111D			1024	Cyanide	0.2							
1015	Cadmium	0.005	0.0005		3113B			1036	Nickel	N/a	0.01		3113B				
1020	Chromium	0.1	0.005		3113B			1074	Antimony	0.006	0.005		200.9				
1035	Mercury	0.002	0.001		245.1			1075	Beryllium	0.004	0.0005		200.9				
1038	Tt (NO2/NO3)	10						1085	Thallium	0.002	0.002		200.9				
1040	Nitrate	0.39	10	0.30	300.0	8/9/2010	JF	Other IOCs									
1041	Nitrite		1.0	0.20	300.0			1005	Arsenic	0.010	0.005		200.9				
1045	Selenium		0.05	0.005	200.9			1025	Fluoride	4.0	0.02		300.0				
1094	Asbestos		7 MFL	0.18	100.1*			1052	Sodium	N/a	0.5		3111B				

\*Reported in mg/L unless otherwise noted † = formerly FRDS No. 1926 PQL = Process Quality limit --- = No analysis performed  
 ND = Not detected within sensitivity of instrument

Signature of Laboratory Supervisor \_\_\_\_\_ Date \_\_\_\_\_

MEADOWS THE  
 P.O. BOX 4380  
 KETCHUM, ID 83340

MEADOWS THE  
 P.O. BOX 4380  
 KETCHUM, ID 83340

LAB FEDERAL ID#: ID 00911	LAB SAMPLE # 1165461
DATE LAB REC'D SAMPLE: 11/11/2011	DATE REPORTED BY LAB: 11/22/2011
COMPLIANCE SAMPLE: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	REPLACEMENT SAMPLE <input type="checkbox"/>
COLLECTION DATE: 11/10/2011	COLLECTION TIME: 11:45:00 AM
SAMPLE TYPE <input type="checkbox"/> CO-confirmation <input type="checkbox"/> RP-repeat <input type="checkbox"/> SP-special <input type="checkbox"/> OTHER: _____ <input checked="" type="checkbox"/> RT-routine <input type="checkbox"/> DU-duplicate	
PWS#: 5070038	PWS NAME: MEADOWS THE
SAMPLING POINT/LOCATION: PUMPHOUSE	TAG #/FACILITY ID:
COLLECTOR'S NAME: JIM ZARUBICA	JURISDICTION:



**MAGIC VALLEY LABS**  
 210 ADDISON AVE, PO BOX 1867  
 TWIN FALLS, ID 83301  
 (208) 733-4250

**PUBLIC DRINKING WATER SYSTEM INORGANIC CHEMICAL (IOC) ANALYSIS REPORT**

FRDS	Contaminant	Result*	Phase II				FRDS	Contaminant	Result*	Phase V				
			MCL*	PQL*	Method	Analysis Date				Analyst	MCL*	PQL*	Method	Analysis Date
1010	Barium		2	0.5	3111D		1024	Cyanide		0.2				
1015	Cadmium		0.005	0.0005	3113B		1036	Nickel		N/A	0.01	3113B		
1020	Chromium		0.1	0.005	3113B		1074	Antimony		0.006	0.005	200.9		
1035	Mercury		0.002	0.001	245.1		1075	Beryllium		0.004	0.0005	200.9		
1038	Tl (NO <sub>2</sub> /NO <sub>3</sub> )		10				1085	Thallium		0.002	0.002	200.9		
1040	Nitrate	0.38	10	0.30	300.0	11/11/2011	JJ			Other IOCs				
1041	Nitrite		1.0	0.20	300.0			1005	Arsenic		0.010	0.005	200.9	
1045	Selenium		0.05	0.005	200.9			1025	Fluoride		4.0	0.02	300.0	
1094	Asbestos		7 MFL	0.18	100.1*			1052	Sodium		N/A	0.5	3111B	

\*Reported in mg/L unless otherwise noted † = formerly FRDS No. 1926 PQL = Process Quality limit --- = No analysis performed  
 ND = Not detected within sensitivity of instrument

Signature of Laboratory Supervisor \_\_\_\_\_ Date \_\_\_\_\_

MEADOWS THE  
 P.O. BOX 4380  
 KETCHUM, ID 83340

MEADOWS THE  
 P.O. BOX 4380  
 KETCHUM, ID 83340

LAB FEDERAL ID#: ID 00911	LAB SAMPLE # 1240181
DATE LAB REC'D SAMPLE: 9/7/2012	DATE REPORTED BY LAB: 9/14/2012
COMPLIANCE SAMPLE: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	REPLACEMENT SAMPLE <input type="checkbox"/>
COLLECTION DATE: 9/6/2012	COLLECTION TIME: 10:00:00 AM
SAMPLE TYPE: <input type="checkbox"/> CC-confirmation <input checked="" type="checkbox"/> RT-routine <input type="checkbox"/> DU-duplicate	<input type="checkbox"/> RR-repeat <input type="checkbox"/> SP-special <input type="checkbox"/> OTHER: _____
PWS#: 5070038	PWS NAME: MEADOWS THE
SAMPLING POINT/LOCATION: SHOP	TAG #/FACILITY ID:
COLLECTOR'S NAME:	JURISDICTION:



**PUBLIC DRINKING WATER SYSTEM INORGANIC CHEMICAL (IOC) ANALYSIS REPORT**

Phase II						Phase V									
FRDS	Contaminant	Result	MCL*	PQL*	Method	Analysis Date	Analyst	FRDS	Contaminant	Result*	MCL*	PQL*	Method	Analysis Date	Analyst
1010	Barium	2	0.5	3111D				1024	Cyanide	0.2					
1015	Cadmium	0.005	0.0005	3113B				1036	Nickel	N/A	0.01		3113B		
1020	Chromium	0.1	0.005	3113B				1074	Antimony	0.006	0.005		200.9		
1035	Mercury	0.002	0.001	245.1				1075	Beryllium	0.004	0.0005		200.9		
1038	Tl (NO2/NO3)	10						1085	Thallium	0.002	0.002		200.9		
1040	Nitrate	<0.30	10	0.30	300.0	9/7/2012	JJ	Other IOCs							
1041	Nitrite		1.0	0.20	300.0			1005	Arsenic	0.010	0.005		200.9		
1045	Selenium	0.05	0.005	200.9				1025	Fluoride	4.0	0.02		300.0		
1094	Asbestos		7 MFL	0.18	100.1*			1052	Sodium	N/A		0.5	3111B		

\*Reported in mg/L unless otherwise noted    † = formerly FRDS No. 1926    PQL = Process Quality limit    --- = No analysis performed  
 ND = Not detected within sensitivity of instrument

Signature of Laboratory Supervisor \_\_\_\_\_ Date \_\_\_\_\_

MEADOWS THE  
 P.O. BOX 4380  
 KETCHUM, ID 83340

MEADOWS THE  
 P.O. BOX 4380  
 KETCHUM, ID 83340

LAB FEDERAL ID#: ID 00911	LAB SAMPLE # 1165461
DATE LAB RECD SAMPLE: 11/11/2011	DATE REPORTED BY LAB: 11/22/2011
COMPLIANCE SAMPLE: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	REPLACEMENT SAMPLE <input type="checkbox"/>
COLLECTION DATE: 11/10/2011	COLLECTION TIME: 11:45:00 AM
SAMPLE TYPE <input checked="" type="checkbox"/> RT-routine <input type="checkbox"/> DU-duplicate <input type="checkbox"/> CO-confirmation <input type="checkbox"/> RP-repeat <input type="checkbox"/> SP-special <input type="checkbox"/> OTHER: _____	
PWS#: 5070038	PWS NAME: MEADOWS THE
SAMPLING POINT/LOCATION: PUMPHOUSE	TAG #/FACILITY ID:
COLLECTOR'S NAME: JIM ZARUBICA	JURISDICTION:



**PUBLIC DRINKING WATER SYSTEM INORGANIC CHEMICAL (IOC) ANALYSIS REPORT**

Phase II						Phase V									
FRDS	Contaminant	Result*	MCL*	PQL*	Method	Analysis Date	Analyst	FRDS	Contaminant	Result*	MCL*	PQL*	Method	Analysis Date	Analyst
1010	Barium		2	0.5	3111D			1024	Cyanide		0.2				
1015	Cadmium		0.005	0.0005	3113B			1036	Nickel		N/A	0.01	3113B		
1020	Chromium		0.1	0.005	3113B			1074	Antimony		0.006	0.005	200.9		
1035	Mercury		0.002	0.001	245.1			1075	Beryllium		0.004	0.0005	200.9		
1038	Tl (NO2/NO3)		10					1085	Thallium		0.002	0.002	200.9		
1040	Nitrate	0.38	10	0.30	300.0	11/11/2011	JJ	Other IOCs							
1041	Nitrite		1.0	0.20	300.0			1005	Arsenic		0.010	0.005	200.9		
1045	Selenium		0.05	0.005	200.9			1025	Fluoride		4.0	0.02	300.0		
1094	Asbestos		7 MFL	0.18	100.1*			1052	Sodium		N/A	0.5	3111B		

\*Reported in mg/L unless otherwise noted \* = formerly FRDS No. 1926 PQL = Process Qualityivity limit --- = No analysis performed  
 ND = Not detected within sensitivity of instrument

Signature of Laboratory Supervisor: *[Signature]* Date: 12/05/11

MEADOWS THE  
 P.O. BOX 4380  
 KETCHUM, ID 83340

MEADOWS THE  
 P.O. BOX 4380  
 KETCHUM, ID 83340



**MAGIC VALLEY LABS**  
210 ADDISON AVE  
TWIN FALLS, ID 83301  
208-733-4250

Laboratory Supervisor: Brenda Ellis

**PWS #: 5070038**  
**MEADOWS THE**  
**PO BOX 4380**  
**KETCHUM, ID 83340**

**LAB ID # ID00911**

**COLIFORM BACTERIA ANALYSIS REPORT**

Date Collected 11/7/2012  
Time Collected 3:15:00 PM

Date Received 11/8/2012  
Time Received 10:30:00 AM

**Sample # 3011122801**  
Type S - ROUTINE SAMPLE  
Location PUMP HOUSE  
Collector JIM Z

Chlorine Residual: ppm

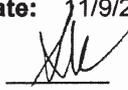
Date of Original Positive:

Copy: SCIRO

<b>Test Performed</b>	<b>Method</b>	<b>Result</b>
Total Coliform	SM9223BCT	ABSENT

**Completed Date:** 11/9/2012

**Analyst:** JD

**Reviewed by:** 

**Analyzed: Date** 11/8/2012

**Time** 3:00:00 PM

SM9223B CT Standard Method 9223B Colilert Reagent  
SM9223B CS Standard Method 9223B Colisure Reagent



## MAGIC VALLEY LABS

210 ADDISON AVE  
TWIN FALLS, ID 83301  
208-733-4250

Laboratory Supervisor: Brenda Ellis

PWS #: 5070038  
MEADOWS THE  
PO BOX 4380  
KETCHUM, ID 83340

LAB ID # ID00911

### COLIFORM BACTERIA ANALYSIS REPORT

Date Collected 10/22/2012  
Time Collected 11:00:00 AM

Date Received 10/23/2012  
Time Received 9:25:00 AM

**Sample #** 301119591  
Type S - ROUTINE SAMPLE  
Location RV PARK RESTROOM  
Collector JIM Z

Chlorine Residual: ppm

Date of Original Positive:

Copy: SCIRO

#### Test Performed

#### Method

#### Result

Total Coliform

SM9223BCT

ABSENT

Completed Date: 10/24/2012

Analyst: JD

Reviewed by: 

Analyzed: Date 10/23/2012

Time 10:00:00 AM

SM9223B CT Standard Method 9223B Colilert Reagent  
SM9223B CS Standard Method 9223B Colisure Reagent



**MAGIC VALLEY LABS**  
210 ADDISON AVE  
TWIN FALLS, ID 83301  
208-733-4250  
Laboratory Supervisor: Brenda Ellis

**PWS #: 5070038**  
**MEADOWS THE**  
**PO BOX 4380**  
**KETCHUM, ID 83340**

LAB ID # ID00911

**COLIFORM BACTERIA ANALYSIS REPORT**

Date Collected 9/6/2012  
Time Collected 10:00:00 AM

Date Received 9/7/2012  
Time Received 9:30:00 AM

**Sample # 3011107871**  
Type S - ROUTINE SAMPLE  
Location SHOP  
Collector JIM Z

Chlorine Residual: ppm

Date of Original Positive:

Copy: SCIRO

<b>Test Performed</b>	<b>Method</b>	<b>Result</b>
Total Coliform	SM9223BCT	ABSENT

Completed Date: 9/8/2012  
Analyst: MW  
Reviewed by: 

Analyzed: Date 9/7/2012  
Time 3:00:00 PM

SM9223B CT Standard Method 9223B Colilert Reagent  
SM9223B CS Standard Method 9223B Colisure Reagent



# MAGIC VALLEY LABS

210 ADDISON AVE  
TWIN FALLS, ID 83301  
208-733-4250

Laboratory Supervisor: Brenda Ellis

PWS #: 5070038  
MEADOWS THE  
PO BOX 4380  
KETCHUM, ID 83340

LAB ID # ID00911

## COLIFORM BACTERIA ANALYSIS REPORT

Date Collected 8/15/2012  
Time Collected 2:00:00 PM

Date Received 8/16/2012  
Time Received 10:10:00 AM

**Sample #** 3011102991  
Type S - ROUTINE SAMPLE  
Location OFFICE  
Collector JBZ

Chlorine Residual: ppm

Date of Original Positive:

Copy: SCIRO

Test Performed	Method	Result
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Total Coliform	SM9223BCT	ABSENT
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Completed Date: 8/17/2012

Analyzed: Date 8/16/2012

Analyst: JD

Time 3:00:00 PM

Reviewed by: 

SM9223B CT Standard Method 9223B Colilert Reagent  
SM9223B CS Standard Method 9223B Colisure Reagent



## MAGIC VALLEY LABS

210 ADDISON AVE  
TWIN FALLS, ID 83301  
208-733-4250

Laboratory Supervisor: Brenda Ellis

**PWS #: 5070038**  
**MEADOWS THE**  
**PO BOX 4380**  
**KETCHUM, ID 83340**

LAB ID # ID00911

### COLIFORM BACTERIA ANALYSIS REPORT

Date Collected 7/12/2012  
Time Collected 12:15:00 PM

Date Received 7/13/2012  
Time Received 9:35:00 AM

**Sample # 3011094851**  
Type S - ROUTINE SAMPLE  
Location PUMP HOUSE  
Collector JIM Z

Chlorine Residual: ppm

Date of Original Positive:

Copy: SCIRO

#### Test Performed

#### Method

#### Result

Total Coliform

SM9223BCT

ABSENT

Completed Date: 7/14/2012

Analyzed: Date 7/13/2012

Analyst: JD

Time 3:00:00 PM

Reviewed by:                     

SM9223B CT Standard Method 9223B Colilert Reagent  
SM9223B CS Standard Method 9223B Colisure Reagent



## MAGIC VALLEY LABS

210 ADDISON AVE  
TWIN FALLS, ID 83301  
208-733-4250

Laboratory Supervisor: Brenda Ellis

PWS #: 5070038  
MEADOWS THE  
PO BOX 4380  
KETCHUM, ID 83340

LAB ID # ID00911

### COLIFORM BACTERIA ANALYSIS REPORT

Date Collected 6/14/2012  
Time Collected 11:15:00 AM

Date Received 6/15/2012  
Time Received 11:15:00 AM

**Sample #** 3011088161  
Type S - ROUTINE SAMPLE  
Location SHOP  
Collector JIM Z

Chlorine Residual: ppm

Date of Original Positive:

Copy: SCIRO

Test Performed	Method	Result
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Total Coliform	SM9223BCT	ABSENT
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Completed Date: 6/16/2012

Analyzed: Date 6/15/2012

Analyst: JJ

Time 3:00:00 PM

Reviewed by: 

SM9223B CT Standard Method 9223B Colilert Reagent  
SM9223B CS Standard Method 9223B Colisure Reagent



## MAGIC VALLEY LABS

210 ADDISON AVE  
TWIN FALLS, ID 83301  
208-733-4250

Laboratory Supervisor: Brenda Ellis

**PWS #: 5070038**  
**MEADOWS THE**  
**PO BOX 4380**  
**KETCHUM, ID 83340**

LAB ID # ID00911

### COLIFORM BACTERIA ANALYSIS REPORT

Date Collected 4/12/2012  
Time Collected 2:20:00 PM

Date Received 4/13/2012  
Time Received 10:34:00 AM

**Sample # 3011074661**  
Type S - ROUTINE SAMPLE  
Location PUMP HOUSE  
Collector JIM ZARUBICA

Chlorine Residual: ppm

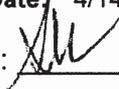
Date of Original Positive:

Copy: SCIRO

Test Performed	Method	Result
Total Coliform	SM9223BCT	ABSENT

Completed Date: 4/14/2012

Analyst: JJ

Reviewed by: 

Analyzed: Date 4/13/2012

Time 3:00:00 PM

SM9223B CT Standard Method 9223B Colilert Reagent  
SM9223B CS Standard Method 9223B Colisure Reagent



**MAGIC VALLEY LABS**  
210 ADDISON AVE  
TWIN FALLS, ID 83301  
208-733-4250  
Laboratory Supervisor: Brenda Ellis

**PWS #: 5070038**  
**MEADOWS THE**  
**PO BOX 4380**  
**KETCHUM, ID 83340**

**LAB ID # ID00911**

**COLIFORM BACTERIA ANALYSIS REPORT**

Date Collected 3/8/2012  
Time Collected 9:30:00 AM

Date Received 3/9/2012  
Time Received 9:45:00 AM

**Sample # 3011067631**  
Type S - ROUTINE SAMPLE  
Location PUMPHOUSE  
Collector JIM ZAMBICA

Chlorine Residual: ppm

Date of Original Positive:

Copy: SCIRO

**Test Performed**

**Method**

**Result**

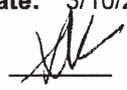
Total Coliform

SM9223BCT

ABSENT

**Completed Date:** 3/10/2012

**Analyst:** JD

**Reviewed by:** 

**Analyzed: Date** 3/9/2012

**Time** 4:00:00 PM

SM9223B CT Standard Method 9223B Colilert Reagent  
SM9223B CS Standard Method 9223B Colisure Reagent





## MAGIC VALLEY LABS

210 ADDISON AVE  
TWIN FALLS, ID 83301  
208-733-4250

Laboratory Supervisor: Brenda Ellis

PWS #: 5070038  
MEADOWS THE  
PO BOX 4380  
KETCHUM, ID 83340

LAB ID # ID00911

### COLIFORM BACTERIA ANALYSIS REPORT

Date Collected 5/10/2012  
Time Collected 2:45:00 PM

Date Received 5/11/2012  
Time Received 9:25:00 AM

**Sample #** 3011080551  
Type S - ROUTINE SAMPLE  
Location RV RESTROOM  
Collector JIM Z

Chlorine Residual: ppm

Date of Original Positive:

Copy: SCIRO

Test Performed	Method	Result
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Total Coliform	SM9223BCT	ABSENT
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Completed Date: 5/12/2012

Analyzed: Date 5/11/2012

Analyst: JJ

Time 3:00:00 PM

Reviewed by: 

SM9223B CT Standard Method 9223B Colilert Reagent  
SM9223B CS Standard Method 9223B Colisure Reagent



## MAGIC VALLEY LABS

210 ADDISON AVE  
TWIN FALLS, ID 83301  
208-733-4250

Laboratory Supervisor: Brenda Ellis

**PWS #: 5070038**  
**MEADOWS THE**  
**PO BOX 4380**  
**KETCHUM, ID 83340**

LAB ID # ID00911

### COLIFORM BACTERIA ANALYSIS REPORT

Date Collected 2/2/2012  
Time Collected 12:00:00 PM

Date Received 2/3/2012  
Time Received 10:25:00 AM

**Sample # 3011060571**  
Type S - ROUTINE SAMPLE  
Location PUMP HOUSE  
Collector JIM Z

Chlorine Residual: ppm

Date of Original Positive:

Copy: SCIRO

Test Performed	Method	Result
Total Coliform	SM9223BCT	ABSENT

Completed Date: 2/4/2012

Analyzed: Date 2/3/2012

Analyst: MW

Time 3:00:00 PM

Reviewed by: 

SM9223B CT Standard Method 9223B Colilert Reagent  
SM9223B CS Standard Method 9223B Colisure Reagent



**MAGIC VALLEY LABS**

210 ADDISON AVE  
TWIN FALLS, ID 83301  
208-733-4250

Laboratory Supervisor: Brenda Ellis

**PWS #: 5070038**  
**MEADOWS THE**  
**PO BOX 4380**  
**KETCHUM, ID 83340**

LAB ID # ID00911

**COLIFORM BACTERIA ANALYSIS REPORT**

Date Collected 1/26/2012  
Time Collected 12:45:00 PM

Date Received 1/27/2012  
Time Received 10:29:00 AM

**Sample # 3011058891**  
Type S - ROUTINE SAMPLE  
Location PUMP HOUSE  
Collector JIM ZARUBICA

Chlorine Residual: ppm

Date of Original Positive:

Copy: SCIRO

<b>Test Performed</b>	<b>Method</b>	<b>Result</b>
Total Coliform	SM9223BCT	ABSENT

**Completed Date:** 1/28/2012

**Analyst:** JD

**Reviewed by:** 

**Analyzed: Date** 1/27/2012

**Time** 3:00:00 PM

SM9223B CT Standard Method 9223B Colilert Reagent  
SM9223B CS Standard Method 9223B Colisure Reagent



**MAGIC VALLEY LABS**

210 ADDISON AVE  
TWIN FALLS, ID 83301  
208-733-4250

Laboratory Supervisor: Brenda Ellis

**PWS #: 5070038**  
**MEADOWS THE**  
**PO BOX 4380**  
**KETCHUM, ID 83340**

LAB ID # ID00911

**COLIFORM BACTERIA ANALYSIS REPORT**

Date Collected 12/21/2011  
Time Collected 11:00:00 AM

Date Received 12/22/2011  
Time Received 9:30:00 AM

**Sample # 3011051511**  
Type S - ROUTINE SAMPLE  
Location MEADOWS OFFICE  
Collector JB ZAMBICA

Chlorine Residual: ppm

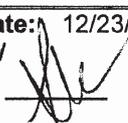
Date of Original Positive:

Copy: SCIRO

<b>Test Performed</b>	<b>Method</b>	<b>Result</b>
Total Coliform	SM9223BCT	ABSENT

Completed Date: 12/23/2011

Analyst: MW

Reviewed by: 

Analyzed: Date 12/22/2011

Time 3:00:00 PM

SM9223B CT Standard Method 9223B Colilert Reagent  
SM9223B CS Standard Method 9223B Colisure Reagent



## MAGIC VALLEY LABS

210 ADDISON AVE  
TWIN FALLS, ID 83301  
208-733-4250

Laboratory Supervisor: Brenda Ellis

**PWS #: 5070038**  
**MEADOWS THE**  
**PO BOX 4380**  
**KETCHUM, ID 83340**

LAB ID # ID00911

### COLIFORM BACTERIA ANALYSIS REPORT

Date Collected 11/10/2011  
Time Collected 11:45:00 AM

Date Received 11/11/2011  
Time Received 9:50:00 AM

**Sample # 3011043351**  
Type S - ROUTINE SAMPLE  
Location SAMPLE TAP-WELL HOUSE  
Collector JIM Z

Chlorine Residual: ppm

Date of Original Positive:

Copy: SCIRO

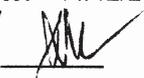
Test Performed	Method	Result
Total Coliform	SM9223BCT	ABSENT

Completed Date: 11/12/2011

Analyzed: Date 11/11/2011

Analyst: MW

Time 3:00:00 PM

Reviewed by: 

SM9223B CT Standard Method 9223B Colilert Reagent  
SM9223B CS Standard Method 9223B Colisure Reagent

Appendix 8:  
Fire Flow Requirements For Buildings

## APPENDIX B

# FIRE-FLOW REQUIREMENTS FOR BUILDINGS

*The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.*

### SECTION B101 GENERAL

**B101.1 Scope.** The procedure for determining fire-flow requirements for buildings or portions of buildings hereafter constructed shall be in accordance with this appendix. This appendix does not apply to structures other than buildings.

### SECTION B102 DEFINITIONS

**B102.1 Definitions.** For the purpose of this appendix, certain terms are defined as follows:

**FIRE-FLOW.** The flow rate of a water supply, measured at 20 pounds per square inch (psi) (138 kPa) residual pressure, that is available for fire fighting.

**FIRE-FLOW CALCULATION AREA.** The floor area, in square feet (m<sup>2</sup>), used to determine the required fire flow.

### SECTION B103 MODIFICATIONS

**B103.1 Decreases.** The fire chief is authorized to reduce the fire-flow requirements for isolated buildings or a group of buildings in rural areas or small communities where the development of full fire-flow requirements is impractical.

**B103.2 Increases.** The fire chief is authorized to increase the fire-flow requirements where conditions indicate an unusual susceptibility to group fires or conflagrations. An increase shall not be more than twice that required for the building under consideration.

**B103.3 Areas without water supply systems.** For information regarding water supplies for fire-fighting purposes in rural and suburban areas in which adequate and reliable water supply systems do not exist, the *fire code official* is authorized to utilize NFPA 1142 or the *International Wildland-Urban Interface Code*.

### SECTION B104 FIRE-FLOW CALCULATION AREA

**B104.1 General.** The fire-flow calculation area shall be the total floor area of all floor levels within the *exterior walls*, and under the horizontal projections of the roof of a building, except as modified in Section B104.3.

**B104.2 Area separation.** Portions of buildings which are separated by *fire walls* without openings, constructed in accordance with the *International Building Code*, are allowed to be considered as separate fire-flow calculation areas.

**B104.3 Type IA and Type IB construction.** The fire-flow calculation area of buildings constructed of Type IA and Type IB construction shall be the area of the three largest successive floors.

**Exception:** Fire-flow calculation area for open parking garages shall be determined by the area of the largest floor.

### SECTION B105 FIRE-FLOW REQUIREMENTS FOR BUILDINGS

**B105.1 One- and two-family dwellings.** The minimum fire-flow and flow duration requirements for one- and two-family *dwellings* having a fire-flow calculation area that does not exceed 3,600 square feet (344.5 m<sup>2</sup>) shall be 1,000 gallons per minute (3785.4 L/min) for 1 hour. Fire-flow and flow duration for dwellings having a fire-flow calculation area in excess of 3,600 square feet (344.5 m<sup>2</sup>) shall not be less than that specified in Table B105.1.

**Exception:** A reduction in required fire-flow of 50 percent, as *approved*, is allowed when the building is equipped with an *approved automatic sprinkler system*.

**B105.2 Buildings other than one- and two-family dwellings.** The minimum fire-flow and flow duration for buildings other than one- and two-family *dwellings* shall be as specified in Table B105.1.

**Exception:** A reduction in required fire-flow of up to 75 percent, as *approved*, is allowed when the building is provided with an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2. The resulting fire-flow shall not be less than 1,500 gallons per minute (5678 L/min) for the prescribed duration as specified in Table B105.1.

### SECTION B106 REFERENCED STANDARDS

ICC	IBC-09	International Building Code	B104.2, Table B105.1
ICC	IWUIC-09	International Wildland-Urban Interface Code	B103.3
NFPA	1142-07	Standard on Water Supplies for Suburban and Rural Fire Fighting	B103.3

APPENDIX B

**TABLE B105.1  
MINIMUM REQUIRED FIRE-FLOW AND FLOW DURATION FOR BUILDINGS**

FIRE-FLOW CALCULATION AREA (square feet)					FIRE-FLOW (gallons per minute) <sup>b</sup>	FLOW DURATION (hours)
Type IA and IB <sup>a</sup>	Type IIA and IIIA <sup>a</sup>	Type IV and V-A <sup>a</sup>	Type IIB and IIIB <sup>a</sup>	Type V-B <sup>a</sup>		
0-22,700	0-12,700	0-8,200	0-5,900	0-3,600	1,500	2
22,701-30,200	12,701-17,000	8,201-10,900	5,901-7,900	3,601-4,800	1,750	
30,201-38,700	17,001-21,800	10,901-12,900	7,901-9,800	4,801-6,200	2,000	
38,701-48,300	21,801-24,200	12,901-17,400	9,801-12,600	6,201-7,700	2,250	
48,301-59,000	24,201-33,200	17,401-21,300	12,601-15,400	7,701-9,400	2,500	
59,001-70,900	33,201-39,700	21,301-25,500	15,401-18,400	9,401-11,300	2,750	
70,901-83,700	39,701-47,100	25,501-30,100	18,401-21,800	11,301-13,400	3,000	3
83,701-97,700	47,101-54,900	30,101-35,200	21,801-25,900	13,401-15,600	3,250	
97,701-112,700	54,901-63,400	35,201-40,600	25,901-29,300	15,601-18,000	3,500	
112,701-128,700	63,401-72,400	40,601-46,400	29,301-33,500	18,001-20,600	3,750	
128,701-145,900	72,401-82,100	46,401-52,500	33,501-37,900	20,601-23,300	4,000	
145,901-164,200	82,101-92,400	52,501-59,100	37,901-42,700	23,301-26,300	4,250	4
164,201-183,400	92,401-103,100	59,101-66,000	42,701-47,700	26,301-29,300	4,500	
183,401-203,700	103,101-114,600	66,001-73,300	47,701-53,000	29,301-32,600	4,750	
203,701-225,200	114,601-126,700	73,301-81,100	53,001-58,600	32,601-36,000	5,000	
225,201-247,700	126,701-139,400	81,101-89,200	58,601-65,400	36,001-39,600	5,250	
247,701-271,200	139,401-152,600	89,201-97,700	65,401-70,600	39,601-43,400	5,500	
271,201-295,900	152,601-166,500	97,701-106,500	70,601-77,000	43,401-47,400	5,750	
295,901-Greater	166,501-Greater	106,501-115,800	77,001-83,700	47,401-51,500	6,000	
—	—	115,801-125,500	83,701-90,600	51,501-55,700	6,250	
—	—	125,501-135,500	90,601-97,900	55,701-60,200	6,500	
—	—	135,501-145,800	97,901-106,800	60,201-64,800	6,750	
—	—	145,801-156,700	106,801-113,200	64,801-69,600	7,000	
—	—	156,701-167,900	113,201-121,300	69,601-74,600	7,250	
—	—	167,901-179,400	121,301-129,600	74,601-79,800	7,500	
—	—	179,401-191,400	129,601-138,300	79,801-85,100	7,750	
—	—	191,401-Greater	138,301-Greater	85,101-Greater	8,000	

For SI: 1 square foot = 0.0929 m<sup>2</sup>, 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa.

a. Types of construction are based on the *International Building Code*.

b. Measured at 20 psi residual pressure.