

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-31995

Exam Date: 8/24/2012

1. Current Owner: BC SIX LLC
ATTN: WILLIAM CUNNINGHAM
3988 N COLE RD
BOISE ID 83704
(208)376-3337
2. Accompanied by: William Cunningham
Phone No: Same
Address: Same
Relationship to Permit Holder: Manager – oversees fire protection system
3. SOURCE TRIBUTARY
GROUND WATER N/A

B. OVERLAP REVIEW

1. Other water rights with the same place of use: None (Nampa Meridian Irr. Dist. Shares currently used on portion of POU for irrigation. No other fire protection rights on POU.)
2. Other water rights with the same point of diversion: None

C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

GROUND WATER SE1/4NE1/4 Sec. 16, Twp 02N, Rge 02W, B.M.
CANYON County

Method of Determination: GPS Location N 43° 30.76116' W116° 34.52022' Garmin model GPSmap 76 Datum NAD 83

2. PLACE OF USE: FIRE PROTECTION

Twp	Rge	Sec	NE	NW	SW	SE	Totals
02N	02W	16	X				

Method of Determination: Esri (2012) Aerial Photography w/ field verification.

3. ☒ Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
- ☒ Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
- ☒ Aerial Photo Attached (required for irrigation of 10+ acres).
- ☒ Photo of Diversion and System Attached

4. Well or Diversion

ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
D0039012	US Motors	60	unknown	unknown	unknown - 10" discharge

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS**1. Measurement Equipment**

<u>Equipment</u>	<u>Type</u>	<u>Make/Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
No physical measurement @ exam	N/A	N/A	N/A	N/A	N/A

Dedicated fire protection well. System not operating @ exam. See Flow Calculations Section below for Theoretical HP Equation and Pump Test flow estimations.

2. Measurements: None taken at exam, dedicated fire protection well – did not require owner to turn on well pump during exam.

E. FLOW CALCULATIONS

 X Additional Computation Sheets Attached

Measured Method: Theoretical HP Equation:

HP = 60

PSI = 35 (est. based on consultant operation recommendation – correspondence with proof of b.u. submission)

Z = 15 ft (est. pump set at 30 ft based on consultant recommendation, est. ~ 10-20 ft above pump for motor > 10 hp, static water level at 13 ft so est. ~15 ft above pump)

$Q = (8.8 \times 0.7 \times HP) / [Z + (2.31 \times PSI)] = (8.8 \times 0.7 \times 60) / [15 + (2.31 \times 35)] = 3.86 \text{ cfs}$ est. capacity of pumping system

Measured Method: Pump Test Conducted on well with different motor:

Maximum Discharge Reported: Q = 2075 gpm = **4.62 cfs** est. capacity of well with different pumping system

Theoretical HP Equation est. capacity of pumping system = **3.86 cfs**

Pump Test Discharge (different pumping system) = **4.62 cfs**

Permitted Rate = **5.57 cfs**

Beneficial Use Limit = **No standard/policy rate for Fire Protection use.**

Proof of Beneficial Use fee paid = \$225.00 = up to **6.00 cfs**

Recommend Theoretical HP Equation Estimation = 3.86 cfs

Theoretical HP Equation est. 3.86 cfs recommended, because no other information available on capacity of system installed. Pump test conducted by consultant (attached) indicates well capacity with different pumping system than the one installed.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: **N/A** (no irrigation use permitted).
2. Volume Calculations for Other Uses: **N/A** (no volume required for fire protection use).

G. NARRATIVE/REMARKS/COMMENTS**SYSTEM DESCRIPTION:**

System consists of a 16 in. diameter well with 60 hp motor discharged to 10 in. pipe to a line leads to fire hydrants provide water for fire protection to lots with BC Six development. No diversion works to any building(s). Canyon Co. tax lot used to create ArcMap place of use shape assuming fire hoses connected to hydrants can fight fire anywhere on lots. Mr. Cunningham has sold a few of the lots, but lot owners asked him to maintain fire protection system on their behalf. Potential ownership change in future if individual lot owners wish to have water right in their names and/or Mr. Cunningham sells all the lots. Right now, ok for right to stay in permit holder's name.

OVERLAP:

POD well serves only this fire protection system. There are no other fire protection rights for the POU. Portion of POU currently farmed with water provided by Nampa Meridian Irrigation District. There are no other associated overlapping rights.

COMPLIANCE WITH PERMIT CONDITIONS:

Permitted water bearing zone 50 ft to 250 ft. Well cased to 55 ft with surface seal to 55 ft. No well screens installed, well open hole from 55 ft to bottom of well at 131 ft. Well constructed in compliance with permitted water bearing zone. However, well is outside Bsn 63 Ground Water Restricted Area, therefore the water bearing zone condition can be removed at licensing. To the best of my knowledge, owner has also complied with all other permit conditions.

Have conditions of permit approval been met? X Yes No

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
FIRE PROTECTION	01/01 to 12/31	3.86 CFS	
<u>Totals:</u>		3.86 CFS	

2. Recommended Amendments

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None

☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

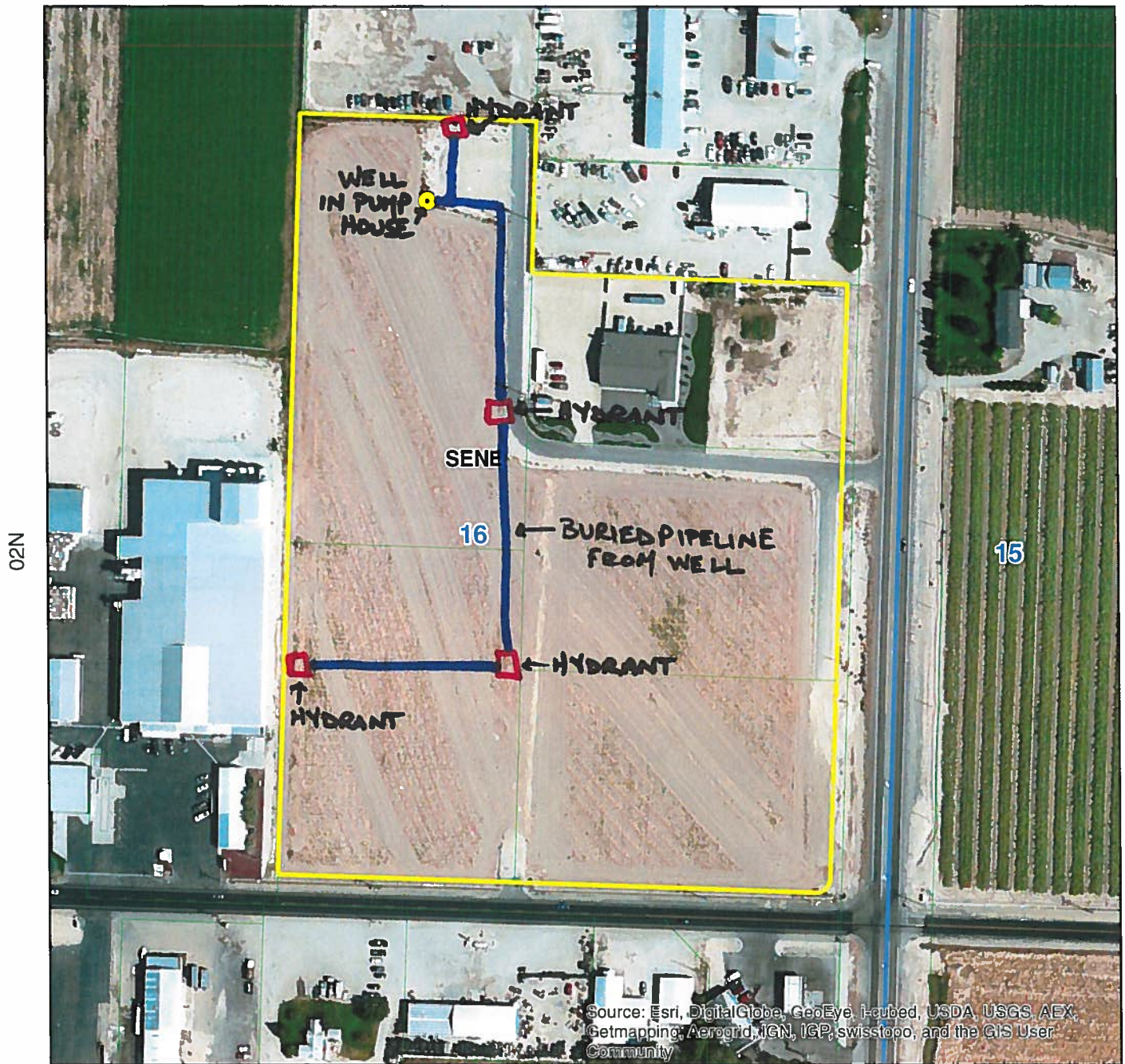
I. AUTHENTICATION

Field Examiner's Name Angela M. Quinn Date 8/9/2013

Reviewer _____ Date _____

63-31995 Beneficial Use Field Report System Diagram & Map

02W



- Point of Diversion
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters
- Taxlots

0 0.025 0.05 0.1 Miles





June 4, 2005

Bill Cunningham
BC Six LLC
3988 North Cole Road
Boise, ID 83704

Subject: Fire Well Pumping Test

Dear Bill:

At your request, I witnessed test pumping of the new fire well at your property near Highway 45 and Lakeshore Drive.

The well was drilled by Adamson Pump and Drilling in April of 2005 to a total depth of 131 feet. The well is cased with 16-inch casing from +2 to 55 feet. An open 16-inch borehole extends below the casing to 131 feet. The borehole penetrates basalt rock and cinders from 20 feet to total depth. A well drillers report is attached.

Testing was conducted on June 1, 2005. Layne of Idaho was the testing contractor. Test equipment consisted of a line-shaft turbine pump with right-angle gear drive and a diesel motor. The water was discharged through a 10-inch pipe with an 8-inch orifice weir for measurement purposes.

Static water level prior to testing was approximately 9.5 feet below ground surface. The well was pumped for 10 minutes at a rate of approximately 1275 gpm with 1.5 feet of drawdown, followed by 10 minutes at a rate of 2035 gpm with 3.0 feet of drawdown. Pumping rate was then increased to 2075 gpm and maintained for two hours. Drawdown at 2,075 gpm was stable throughout the two hour period at 5 feet. Pumping water level was 14.5 feet below ground surface. Upon stopping the pump, the water level recovered to static level within one minute. Test data are attached.

The pumping test shows that the well can easily maintain the desired fire flow of 2,500 gpm for two hours. For design purposes, I suggest a pump setting depth of 30 feet. Assuming a desired discharge pressure of 35 psi, a nominal 100 hp motor will be required to produce 2500 gpm.

Please contact me with any questions.

Sincerely,

Terry M. Scanlan, P.E. P.G.

**BC Six Fire Well Pumping Test
June 1, 2005**

Measuring Point - 4 feet above ground level
 Pump - 10 hp submersible - Berkeley TP-125
 Water Level Measurement - electric line well sounder
 Flow Measurement - 8-inch orifice, 10-inch discharge pipe
 Line Shaft Turbine Pump, 100-foot setting depth

Time	Depth To Water (feet)	Drawdown (feet)	Manometer (inches)	Rate (gpm)	Remarks
10:00	13.5			0	static
10:02			18	1273	start pump
10:05	15.0			1273	
10:06			18-18.5	1273	
10:09	15.0			1273	
10:12	14.9			1273	increase rate
10:13			46	2035	
10:15	16.5			2035	
10:21			46	2035	
10:22	16.5			2035	increase rate
10:26	18.4		73	2575	
10:30	18.3			2575	
10:32			73	2575	
10:45	18.4			2575	no sand or cinders
11:05				2575	57 degrees F
11:10	18.3			2575	
11:30	18.5		73	2575	
11:48	18.3		73	2575	
12:14	18.4		73	2575	
12:22	18.4			2575	stop pump
12:23	13.4			0	stable

18.4

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

832376
Office Use Only
Well ID No. 402967
Inspected by _____
Twp _____ Rge _____ Sec _____
1/4 1/4 1/4
Lat: : : Long: : :

1. WELL TAG NO. D D0039012
DRILLING PERMIT NO. 887876-832376
Water Right or Injection Well No. 63-31995

2. OWNER:
Name BC Six LLC
Address 3988 North Cole Rd
City Boise State ID Zip 83704

3. LOCATION OF WELL by legal description:
You must provide address or Lot, Blk, Sub. or Directions to well.
Twp. 2N North ☐ or South ☐
Rge. 2W East ☐ or West ☐
Sec. 16 SE 1/4 NE 1/4 1/4
Gov't Lot _____
Lat: : : Long: : :
Address of Well Site Lakeshore Drive 1/8th mile west of
Highway 45 City Nampa
(Give at least name of road - Distance to Road or Landmark)
Lt. _____ Blk. _____ Sub. Name _____

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

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 Material	From	To	Weight / Volume	Seal Placement Method
<u>Bentonite</u>	<u>0</u>	<u>55</u>	<u>2300lb</u>	<u>Overhead</u>

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
<u>4 1/2</u>	<u>+2</u>	<u>55</u>	<u>388</u>	<u>Steel</u>	☒	☐	☒	☐

Length of Headpipe _____ Length of Tailpipe _____
Packer ☐ Y ☒ N Type _____

9. PERFORATIONS/SCREENS PACKER TYPE

Perforation Method None
Screen Type & Method of Installation None

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. FILTER PACK

Filter Material	From	To	Weight / Volume	Placement Method

11. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
13 ft. below ground Artesian pressure _____ lb.
Depth flow encountered _____ ft. Describe access port or control devices: welded metal plate

12. WELL TESTS:

Yield gal./min.	Drawdown	Pumping Level	Time
<u>1500</u>			<u>8 hours</u>

Water Temp. 59° Bottom hole temp. _____
Water Quality test or comments: Clean, Clear

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

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Y	N
<u>20</u>	<u>0</u>	<u>20</u>	<u>Soil & Clay</u>		
<u>16</u>	<u>20</u>	<u>25</u>	<u>Lava</u> (Little)	☒	
	<u>25</u>	<u>55</u>	<u>Lava w/ crevasses</u> (lots)	☒	
	<u>55</u>	<u>65</u>	<u>Lava w/ crevasses</u> (lots)	☒	
	<u>65</u>	<u>70</u>	<u>Red lava rock</u> (more)	☒	
	<u>70</u>	<u>76</u>	<u>Lava Rock</u>		
	<u>76</u>	<u>82</u>	<u>Red lava w/ crevasses</u>	☒	
	<u>82</u>	<u>96</u>	<u>Lava w/ cracks</u>		
	<u>96</u>	<u>131</u>	<u>Lava cracks</u>	☒	

RECEIVED

APR 28 2005

WATER RESOURCES
WESTERN REGION

Completed Depth 131' (Measurable)
Date: Started 04.14.05 Completed 04.25.05

14. DRILLER'S CERTIFICATION

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

Company Name Adamson Pump & Drilling Firm No. 457

Principal Driller Steve Adamson Date 04.26.05

Driller or Operator II Dave Date 04.26.05

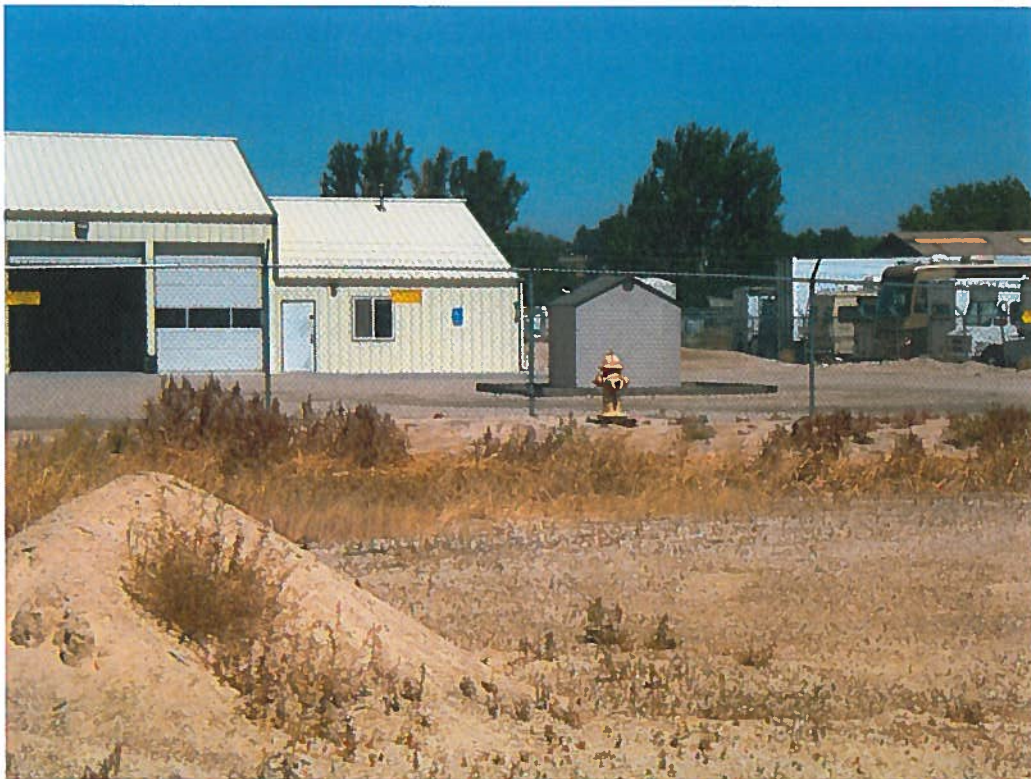
Operator I _____ Date _____

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

63-31995 Beneficial Use Field Report Photos



63-31995 Exam 8/24/2012: POD well and motor with 10 inch discharge inside pump house.



63-31995 Exam 8/24/2012: Portion of POU (northern most hydrant on well/pump house lot).



State of Idaho

DEPARTMENT OF WATER RESOURCES

Western Region, 2735 Airport Way • Boise, Idaho 83705-5082

Phone: (208) 334-2190 • Fax: (208) 334-2348 • Web Site: www.idwr.idaho.gov

C. L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Interim Director

August 17, 2012

BC Six LLC
Attn: William Cunningham
3988 N. Cole Rd.
Boise, ID 83704

RE: Scheduling Field Exam for Water Right Permit No. 63-31995

Dear Mr. Cunningham:

We are planning to **conduct water right examinations** in the vicinity of the above-referenced permit **during the weeks of August 20 and August 27, 2012**. An examination is needed to verify your water use in order to issue a water right license.

Please be advised that you will need to operate your system under normal conditions during the examination. The permit authorizes diversion of ground water for fire protection use.

In order to conduct your exam as efficiently as possible, we ask that you call this office to schedule a day and time convenient for you. **Please call me at 208-334-2190 by August 24, 2012.** If there is a problem with scheduling or conducting the examination at this time, please call and other arrangements can be made. I appreciate your attention in this matter and I look forward to hearing from you.

Sincerely,

A handwritten signature in black ink, appearing to read 'Angela M. Grimm', is written over a horizontal line.

Angela M. Grimm, P.G.
Water Resource Agent, Sr.