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January 21th, 2013

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DEPARTMENT OF
WATER RESOURCES

Mr. Shelly Keen
Idaho Department of Water Resources
322 East Front Street
P. O. Box 83720
Boise, Idaho 83720-0098

**SUBJECT: Annual Report: Aquifer Recharge and Pumping Report for
the 2011 and 2012 Years, Dry Lot LLC, Permit 37-22252**

Dear Mr. Keen:

On behalf of Dry Lot LLC, Brockway Engineering, PLLC, respectively submits this report. This report documents activities on the aquifer recharge and pumping project for the years 2011 and 2012 at the Valley Club HOA recharge site north of Hailey, Idaho. This report is submitted to comply with the reporting conditions required under Permit No. 37-22522 and Transfer 74449 in the name of Dry Lot LLC.

Please review this report at your convenience. If you have any questions or comments, please do not hesitate to contact me at (208) 736-8543.

Sincerely,

Charles E. Brockway, PhD, PE
Project Manager

Cc: Woody Friedlander, President Valley Club HOA
Barrie Beaver-The Valley Club
Travis Thompson
Big Wood River Canal Company
Indian Creek HOA

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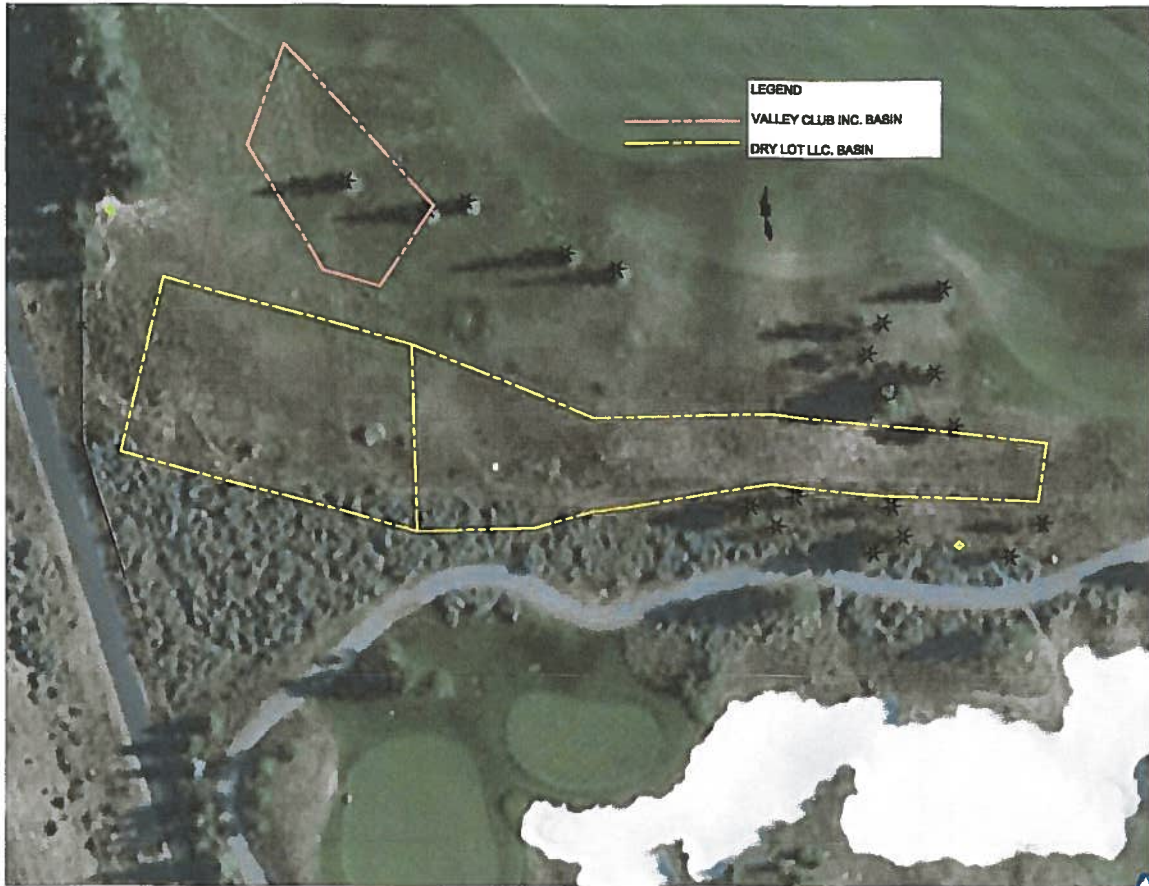
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**AQUIFER RECHARGE AND PUMPING
DRY LOT LLC
REPORT – 2011 AND 2012
January 2013**



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DRY LOT LLC
REPORT- 2011 and 2012
January 2013**

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EXECUTIVE SUMMARY

This report documents activities and performance for reporting years 2011 and 2012 at the Dry Lot LLC aquifer recharge site located at the Valley Club north of Hailey, Idaho (Figure 1). This report is prepared to comply with condition number nine of Dry Lot LLC water right permit No. 37-22252 and condition number five of Dry Lot LLC water rights 37-22313, 37-22318, and 37-22323 issued by the Idaho Department of Water Resources (IDWR).

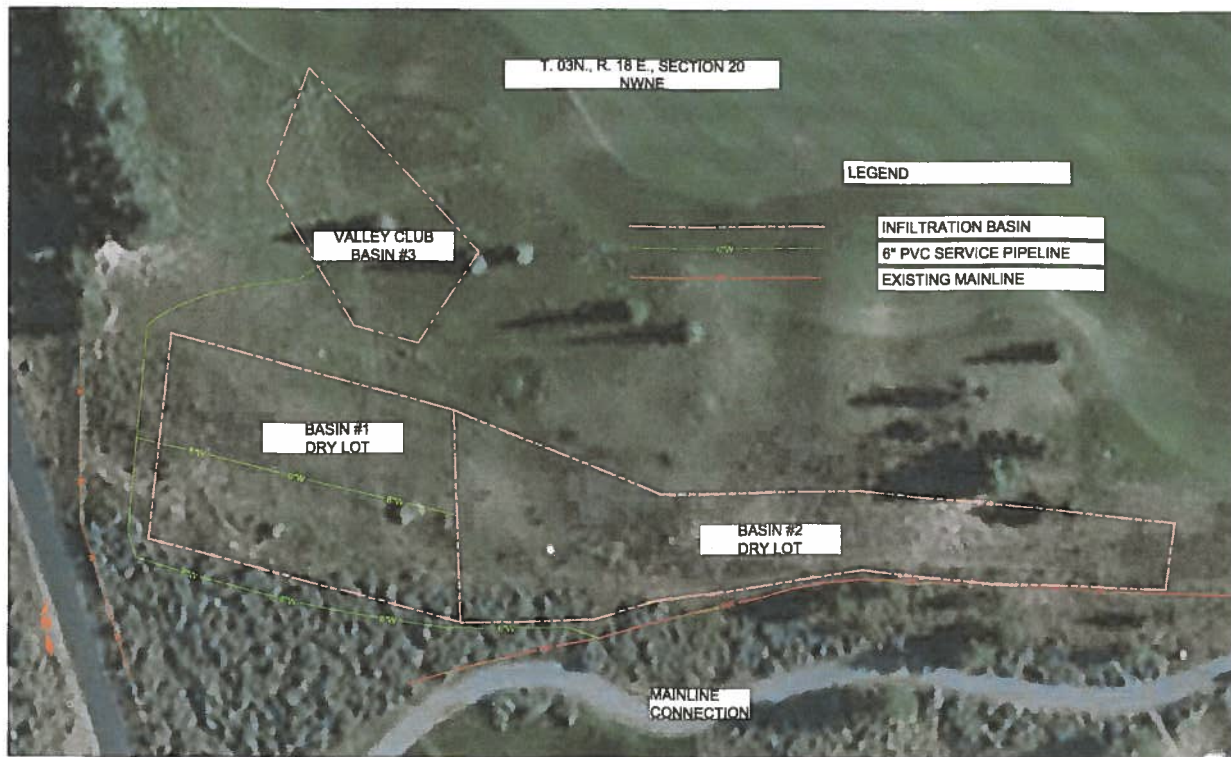


Figure 1: Locations of Dry Lot LLC and Valley Club Infiltration Basins.

Under the Dry Lot LLC permit, it is proposed to recharge up to a maximum of 75.4 acre-feet of water from the Big Wood River through the adjacent Hiawatha Canal and Valley Club golf course irrigation system and to extract irrigation water from the existing Valley Club HOA wells in T.03N R.18E SEC.20 SW $\frac{1}{4}$ NE $\frac{1}{4}$ and SE $\frac{1}{4}$ NW $\frac{1}{4}$ to irrigate up to 27.5 acres of turf grass anywhere within ninety-nine currently platted subdivision lots. The Valley Club proposes to recharge up to 15 acre feet of water from the same source and extract the same for supplemental irrigation from an existing well in the T.03N R.18E SEC.20 NW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$. The permit for the Valley Club has not been secured; however, the recharge basin is completed.

IDWR Permit No. 37-22252 was approved on August 8, 2010 authorizing limits of 75.4

acre-feet to be recharged for 27.5 acres of irrigation. Planning and design of the infiltration system was coordinated with the Valley Club Golf Club and the design of the system was revised to add an additional recharge volume to accommodate a proposed project by the Valley Club for enhanced golf course irrigation. The permit application by the Valley Club is pending approval by IDWR.

This report includes the following information: location of facilities; construction activities to date, flow volumes of recharge water applied to the site; compliance summary; and conclusions and recommendations.

LOCATION OF FACILITIES

Facilities associated with the Dry Lot LLC and Valley Club infiltration basins are located in T.03N R.18E SEC.20 NWSE. Infiltration basin recharge water is diverted from the Valley Club irrigation system, flows through a 6" delivery line into an Orival OR-04-PE 100 micron mesh filter, and can enter any of the two Dry Lot LLC, or one Valley Club infiltration basins. Basin layout was done during construction to meet the required area for infiltration, as well as to meet physical constraints such as accommodating for existing irrigation piping and golf course irrigation facilities. An infiltration basin facility overview is shown in Appendix A.

CONSTRUCTION ACTIVITIES

At this time (January 2013), project construction is complete and operation of the Dry Lot LLC recharge basin began on May 21st 2012 by Brockway Engineering. Construction on the facilities commenced in early December of 2011 with the construction of the infiltration galleries and delivery from the pipe from the Hiawatha Canal via the Valley Club irrigation distribution system. Construction of the infiltration basins was near complete in mid-May of 2012; however minor changes to the filtration system were required after that time and caused delays in infiltration volumes in the Dry Lot LLC basins. Problems arising from a very fine filter screen mesh size occurred from initial use of the basins through mid-August. A lack of pressure in the Valley Club delivery system would cause the filter to flush more often than required due to a pressure differential across the filter screen, discharging large amounts of water onto the Valley Club golf course. Filter trouble shooting and eventual replacement of the 50 micron filter screen with a 100 micron filter inhibited the recharge basins from receiving a constant inflow rate for infiltration purposes. A new filter screen with a 100 micron mesh size was installed in mid-September and full operation of the Dry Lot LLC recharge basins commenced.

BASIN RECHARGE

Reporting condition nine of the Dry Lot LLC permit requires submittal of an annual report by January 31, of each year to include the following:

- a) The volume of water diverted from the authorized points of diversion for each month of the prior calendar year,
- b) The number and location (by subdivision lot number) of the acres of land irrigated in connection with this right during the prior calendar year and,
- c) The number and location (by subdivision lot number) of the homes served domestic water from the authorized points of diversion pursuant to other water rights during the prior calendar year.

Table 1 shows the flow meter readings and diversion volumes from the Valley Club HOA wells during 2011. Table 2 shows the flow meter readings and diversion volumes from the Valley Club HOA wells during 2012. Table 3 shows the subdivision lots served from Valley Club Homeowners Association wells with domestic water in 2011 and with both domestic water irrigation water under permit 37-22252 in 2011 and 2012.

In 2011, 212.2 acre-feet of water was pumped from the Valley club HOA wells for domestic and irrigation uses for 47 residences. At $\frac{1}{2}$ acre of domestic exemption per lot (23.5 acres on 47 lots) plus 1.0 acre of private irrigation under water right 37-4F on lot 57, total irrigation was in excess of the exempted acreage by 27.2 acres as total irrigation at this time was 51.7 acres. Construction of infiltration basins at the end of 2011 prohibited infiltration of water under permit 37-22252 during 2011.

In 2012, 253.9 acre-feet (an increase of 41.7 acre-feet) was pumped for domestic and irrigation uses for 47 residences. On forty-seven lots, 51.7 total acres were irrigated using 27.5 acres of Dry Lot LLC water developed under permit 37-22252. Because the number of residences did not increase between 2011 and 2012 and aerial imagery is not available for 2012, the number of irrigated acres in 2012 is assumed to be equal to the number of acres irrigated in 2011. At $\frac{1}{2}$ acre of domestic exemption per lot (23.5 acres on 47 lots) plus private irrigation water right 37-4F on lot 57 and 27.5 acres under permit 37-22252, the forty-seven lots with residences were authorized to irrigate a total of fifty-two (52.0) acres. Actual irrigation on the forty-seven lots in 2012 was 51.7 acres. Infiltration basin construction allowed irrigation under 37-22252 to occur during 2012.

Between May 21st and September 14th 2012, 22.7 acre feet were recharged in Dry Lot LLC basins 1 and 2. A recharge volume of 75.4 acre-feet is authorized under 37-22252 when all of the 27.5 acres are irrigated under 37-22252. On the forty-seven lots, 27.5 acres was irrigated under 37-22252, requiring 75.4 acre-feet to be recharged.

The difference between the 75.4 acre-feet of infiltration needed and the 22.7 acre-feet actually infiltrated in 2012 is 52.7 acre-feet. This infiltration volume deficiency was attributed to complications arising from the filter screen with a very small 50 micron mesh size and constant filter flushing causing unwanted ponded water to develop on the Valley Club Golf Course. Constant flushing of the filter did not allow consistent basin inflow infiltration rates to be established in the Dry Lot LLC recharge basins.

Operation of the infiltration basins and the volume infiltrated were a result of an improperly functioning filter and were not a result of the capacity of the infiltration basins themselves. 220 gallons per minute (approximately 1.0 acre-foot) was run into the basins and no rise in basin water levels was observed in basin piezometers.

The filter screen was taken out of the filter housing on August 2nd 2012 and sent back to the manufacturer for a replacement filter screen with a larger mesh size. A new filter screen was received the week of September 10th 2012 and the new screen was installed on September 14th. At a 1.0 acre-foot per day infiltration rate, the deficient infiltration volume of 52.7 acre-feet could have easily been infiltrated within the time period between August 2nd and the end of September 2012, shortly after filter replacement was occurred (filter mesh was taken out of filter housing) and inflow to the basins was shut off. System construction was therefore not complete during the irrigation season of 2012 but is fully operational for 2013.

2011				
	<i>East Well</i>	<i>East Well</i>	<i>West Well</i>	<i>West Well</i>
	<i>in Pump House</i>	<i>in Pump House</i>	<i>Across Road</i>	<i>Across Road</i>
	PUMP #1 METER	Total	PUMP #2 METER	Total
DATE:	TOTALIZER (GAL):	Usage (AFA):	TOTALIZER (GAL):	Usage (AFA):
1/1/2011	1,769,500		3,282,700	
1/3/2011	1,769,500		3,369,800	0.3
1/13/2011	1,856,300	0.3	3,457,000	0.5
2/5/2011	2,030,100	0.8	3,629,800	1.1
3/3/2011	2,295,500	1.6	3,837,800	1.7
3/7/2011	2,295,500	1.6	3,892,900	1.9
3/17/2011	2,382,600	1.9	3,979,100	2.1
4/1/2011	2,469,200	2.1	4,065,400	2.4
5/2/2011	2,825,000	3.2	4,348,800	3.3
5/4/2011	2,920,000	3.5	4,423,100	3.5
5/5/2011	2,920,000	3.5	4,527,100	3.8
5/6/2011	3,019,400	3.8	4,527,100	3.8
5/7/2011	3,019,400	3.8	4,646,000	4.2
5/8/2011	3,130,700	4.2	4,745,600	4.5
5/9/2011	3,268,200	4.6	4,745,600	4.5
5/10/2011	3,332,300	4.8	4,878,000	4.9
5/12/2011	3,544,800	5.4	5,023,200	5.3
5/20/2011	4,526,800	8.5	5,890,400	8.0
6/16/2011	8,233,500	19.8	8,933,500	17.3
6/17/2011	8,363,900	20.2	9,121,600	17.9
6/30/2011	10,610,600	27.1	11,858,800	26.3
7/14/2011	13,240,900	35.2	16,635,300	41.0
8/16/11	21,012,000	59.1	27,342,500	73.8
9/14/11	27,335,800	78.5	36,193,600	101.0
10/18/11	31,188,800	90.3	42,025,400	118.9
11/23/11	31,544,800	91.4	42,408,000	120.1
12/14/11	31,631,900	91.6	42,581,300	120.6
TOTALS PER WELL:		91.6 Acre-Feet		120.6 Acre-Feet
TOTAL FOR BOTH WELLS:		212.2 Acre-Feet		

Table 1: Valley Club Homeowners Well Diversion Volumes for 2011.

2012				
	<i>East Well in Pump House</i>	<i>East Well in Pump House</i>	<i>West Well Across Road</i>	<i>West Well Across Road</i>
	PUMP #1 METER	Total	PUMP #2 METER	Total
DATE:	TOTALIZER (GAL):	Usage (AFA):	TOTALIZER (GAL):	Usage (AFA):
1/13/2012	31,981,200	1.1	42,842,000	0.8
2/15/2012	32,243,500	1.9	43,103,600	1.6
3/14/2012	32,419,100	2.4	43,363,300	2.4
4/24/2012	32,875,000	3.8	43,824,400	3.8
5/16/2012	35,475,900	11.8	46,727,900	12.7
5/23/2012	36,911,900	16.2	48,654,900	18.6
5/25/2012	37,494,300	18.0	48,846,800	19.2
6/15/2012	42,090,000	32.1	53,450,000	33.4
7/19/2012	50,129,800	56.8	64,517,300	67.3
8/28/2012	59,543,100	85.7	77,657,600	107.6
9/20/2012	64,793,600	101.8	83,515,500	125.6
10/19/2012	68,140,800	112.0	87,772,600	138.7
10/25/12	68,209,100	112.3	87,842,700	138.9
11/27/12	68,426,900	112.9	88,006,800	139.4
11/30/12	68,462,000	113.0	88,008,200	139.4
12/26/12	68,636,300	113.6	88,215,100	140.0
01/02/13	68,707,400	113.8	88,250,900	140.2
TOTALS PER WELL:		113.8 Acre-Feet		140.2 Acre-Feet
TOTAL FOR BOTH WELLS:		253.9 Acre-Feet		

Table 2: Valley Club Homeowners Well Diversion Volumes for 2012.

2011 & 2012			
Lot # Served by			
Valley Club HOA Wells:			
5	35	53	78
6	36	54	80
7	37	57	83
9	41	58	85
10	43	61	88
13	44	64	92
15	46	65	95
16	48	66	96
22	49	67	97
29	50	68	98
32	51	70	99
34	52	77	
TOTAL:		47.0	

Table 3: Lots Served by Valley Club Homeowners Wells' 2011 and 2012.

COMPLIANCE SUMMARY

In 2011, forty-seven residences were present within the Valley Club subdivision. Forty-seven residences irrigated a total of 51.7 acres, 23.5 occurring under a domestic exemption and 1.0 acre under private water right 37-4F. Infiltration basin construction began in early December and was finished in mid-May 2012; however, the filter system was not operational until mid-September 2012.

In 2012 forty-seven residences were present within the Valley Club subdivision and a total of 51.7 acres were irrigated. 27.5 total acres are authorized to be irrigated under permit 37-22252, 23.5 acres are authorized under domestic exemptions, and 1.0 acre is authorized under private water right 37-4F.

Complications and constraints dealing with filter screen size, constant filter flushing, and filter screen replacement limited the volume of water able to be infiltrated into the Dry Lot LLC basins in 2012. Irrigation of 27.5 acres under permit 37-22252 requires 75.4 acre-feet required to be infiltrated. In 2012, 22.7 acre-feet were infiltrated. Constraints on the volume infiltrated stemmed from complications with filter screen mesh size. Infiltration basin system design and construction did not limit infiltration volumes as 220 gpm were allowed to flow into Dry Lot LLC Basins 1 and 2 and no change was observed in water levels in basin piezometers.

CONCLUSIONS AND RECOMMENDATIONS

1. Construction on the infiltration basins for the project commenced in early December 2012 and was completed in mid-May 2012.
2. In 2011, 51.7 total acres were irrigated on forty-seven lots, 23.5 acres of which were covered under domestic exemption and 1.0 acre under private water right 37-4F.
3. In 2011, the total volume pumped from the Valley Club HOA wells for domestic and irrigation purposes was 212.2 acre-feet.
4. Irrigation in 2012 is assumed to be similar to 2011 irrigation as the number of residences has not changed and irrigation on those lots likely has not changed.
5. In 2012, 51.7 total acres were irrigated on 47 lots, 27.5 acres under permit 37-22252, 23.5 under domestic exemption, and 1.0 acre under 37-4F on private lot 57, leaving 0.3 excess acres un-irrigated.
6. In 2012, the total volume pumped from the Valley Club HOA wells for domestic and irrigation uses was 253.9 acre-feet.
7. The 2012 total volume associated with irrigation on forty-seven lots not associated with a domestic exemption or private water right is 75.4 acre-feet. 22.7 acre-feet of water was recharged through September 14th 2012 in two Dry Lot Basins, leaving a deficiency of 52.7 acre-feet.
8. The volume recharged in 2012 was limited by construction related constraints such as a very small in-line filter screen mesh size which caused constant back

APPENDIX A:



flushing and delays in system operation due to long filter screen exchange times by the filter screen manufacturer.

9. The volume recharged in 2012 was not dependent on infiltration design as 220 gpm or approximately 1.0 acre-foot was put into both basins with no rise in observed water levels in basin piezometers.
10. Filter screen replacement in September 2012 will allow adequate infiltration volume in 2013.
11. Facilities are designed to accommodate Valley Club proposed recharge volumes pending approval of the Valley Club application for permit.