

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-34021

Exam Date: 7/27/20

1. Current Owner:

KUNA CEMETERY MAINTENANCE DISTRICT 2390 N LOCUST GROVE RD KUNA ID 83634

SOURCE:

GROUND WATER

Method of Determination: Permit application, ArcMap, aerial imagery, and USGS topography.

B. OVERLAP REVIEW1. Other water rights with the same place of use: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
Boise Kuna Irrigation District	Boise River	Irrigation	Decree

Comments: Existing Boise Kuna Irrigation District surface water right, this right is to provide supplemental groundwater use.

2. Other water rights with the same point-of-diversion: NO Overlap

Water Right No.	Source	Purpose of Use	Basis
N/A			

Comments: No POD overlap.

C. DIVERSION AND DELIVERY SYSTEM1. **LOCATION OF POINT(S) OF DIVERSION:**

GROUND WATER NW¼ SW¼, Sec. 23, Twp 02N, Rge 01W, B.M. ADA County

Method of Determination:

PLACE OF USE: IRRIGATION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
02N	01W	23									6.5								6.5

Total Acres: 6.5

Method of Determination:

3.

X Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.

X Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.

X Aerial Photo Attached (required for irrigation of 10+ acres).

X 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
D0070339	N/A	3		N/A	

D. FLOW MEASUREMENTS

Unable to take flow measurement.

E. FLOW CALCULATIONS x Additional Computation Sheets Attached

-Theoretical Flow Calculation:

$$Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$$

Pump Horsepower 3
 Pumping Level 100
 Discharge Pressure 17
 Rate of Flow (cfs) **0.08**

-Sprinkler Calculation:

24 sprinklers @ 1 time
 54 psi on system
 3.7 gpm per sprinkler
 24 sprinklers * 3.7 gpm/ sprinkler = 88.8 gpm
 88.8 gpm/448.8 gpm = 0.20 cfs

Irrigation Permit:	0.23 cfs
Theoretical Rate	0.08 cfs
B.U. Standard Allowance:	0.02 cfs x 6.5 ac= 0.13 cfs
Sprinkler Rate	0.20 cfs
B.U. Proof Fee:	\$50 → 0.00 cfs to 0.20 cfs

License Recommendation **0.13 cfs**

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = (6.5 \text{ ac}) \times (4.5 \text{ afa}) = 29.3 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = (0.13 \text{ cfs}) \times (260 \text{ days}) \times 1.9835 = 67.0 \text{ af}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 29.3 \text{ af}$$

No volume reported for supplemental use*G. NARRATIVE/REMARKS/COMMENTS**

The permit was assigned to Kuna Cemetery Maintenance District on December 17, 2017. The proof of beneficial use was submitted July 1, 2020 by Marie Beatty the secretary for the Kuna Cemetery. Current Ada county taxlot data represents Kuna Cemetery Maintenance District as the owner of the land pertinent to the place of use and point of diversion.

Ground water comes from a well drilled in 2016. The well log gives both the legal description and the GPS coordinates in Degrees-Minutes- Seconds. Both of these methods place the well in Section 23, Township 02 North, Range 01 West, NW 1/4, SW 1/4. The permit authorized 13 acres for irrigation, a review of ArcMap tools and aerial imagery from 2014 to 2017 did not show development of entire POU. Water Resource Agent Kate Huelse Met Eferen Sexton to conduct a field examine on July 27th. The wells GPS coordinates are 43 29.698, 116 25.729. Mr. Sexton confirmed that the system diverts water using a 3 hp pump.

It was observed during the field exam that only 6.5 of the 13 acres were developed, Mr. Sexton claimed that the cemetery had not yet reached a capacity on the east side of the POU, therefore they are not developing the western side of the POU at this time. Mr. Sexton demonstrated the irrigation system on eastern portion of the POU during the field exam. There are

about 144 sprinkler heads serving 6.5 acres, the cemetery typically runs 24 heads at one time.

The original permit allowed for the irrigation of 13 acres and a maximum diversion rate of 0.26 cfs, The total rate I have recommended for this license is 0.13 cfs for the 6.5 acres that have been irrigated and developed. The rate of 0.13 cfs is capable of providing sufficient water for the permit holders system and needs.

Have conditions of permit approval been met? ☒ Yes ☐ No

H. RECOMMENDATIONS

1. Recommended Amounts

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>
IRRIGATION	03/01 to 11/15	0.13 CFS

Totals: 0.13 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 ☒ None

I. AUTHENTICATION

Kate Huelse - Water Resource Agent

Field Examiner's Name Kate Huelse Date 9/14/20

Reviewer Patricia Kelly Date 9-8-2020

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 63-33857
 Reviewer: Kate Huelse
 Date of Review: 3/18/2020

P/D No.:	Scenario 1	Scenario 2	Scenario 3
PUMP HORSEPOWER	3	3	3
BOOSTER HORSEPOWER	0	0	0
PUMPING LEVEL	100	125	150
DISCHARGE PRESSURE	35	45	55
RATE OF FLOW (cfs)	0.10	0.08	0.07 0.08

The above calculates the formula =

$$Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$$

Assumptions: %70 efficiency.
 No Friction

Examiners Notes:

The well is equipped with a 3 hp pump, the pumping level was measured using the well log, a range of discharge pressures were provided for the three scenarios. The theoretical average rate is 0.08 cfs.

Kuna Cemetery System Diagram



Legend

- Township/Range
- Sections
- QQ

0 0.095 0.19 Miles



6.5 acre POU, photos
taken facing east.





Rain Bird 6504 Rotors, typically irrigate using 24 heads per section, the POU consists of 6 sections.



Undeveloped POU



POD

43 29.698, 116 25.729

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make
D0070339	N/A	3		N/A

IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

1. WELL TAG NO. 0070339
Drilling Permit No. 971553-811610
Water right or Injection well # 63-34821

2. OWNER:
Name Kuna Cemetary Maintenance District
Address 2390 N. Locust Grove Rd.
City Kuna State ID Zip 83634

3. WELL LOCATION:
Twp. 2 North ☒ or South ☐ Rge. 1 East ☐ or West ☒
Sec. 23 1/4 1/4 SW 1/4

Gov't Lot _____ County Ada
Lat. 43 29.698 (Deg. and Decimal minutes)
Long. 116 25.729 (Deg. and Decimal minutes)
Address of Well Site 1321 Boise Street

City Kuna
Lot. _____ Bk. _____ Sub. Name _____

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

5. TYPE OF WORK:
☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other _____

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

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft)	Placement method/procedure
3/4 bentonite	0	80	1900lbs	dry pour

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/Schedule	Material	Casing	Liner	Threaded	Welded
8"	+2	154	.250	steel	☒	☐	☐	☒
6"	149	154	.250	steel	☐	☒	☐	☒
6"	174	176	.250	steel	☐	☒	☐	☒

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 154ft

9. PERFORATIONS/SCREENS:
Perforations ☐ Y ☒ N Method _____
Manufactured screen ☒ Y ☐ N Type johnson wire wrap
Method of installation pull back

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
154	174	.020	—	6"	stainless	

Length of Headpipe 5ft Length of Tailpipe 2ft
Packer ☒ Y ☐ N Type single wiper 6x8

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft)	Placement method

11. FLOWING ARTESIAN:
Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) _____
Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:
Depth first water encountered (ft) 81ft Static water level (ft) 81ft
Water temp. (°F) 58degF Bottom hole temp. (°F) _____
Describe access port turtle cap

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
	200+gpm	120

Test method:

Pump	Bailer	Air	Flowing artesian
☐	☐	☒	☐

Water quality test or comments: _____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water
				Y N
12"	0	1	top soil	
"	1	5	hard white clay	
"	5	37	basalt	
"	37	43	red cinders	
"	43	77	basalt	
8"	77	128	gravel and sand	X
"	128	141	sand and gravel	X
"	141	143	gravel and sand	X
"	143	176	coarse sand	X
"	176		tan clay	X

Completed Depth (Measurable): 176ft
Date Started: Dec 21, 2015 Date Completed: Jan 7, 2016

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 Coorse Well Drilling Co. No. 409
*Principal Driller [Signature] Date Jan 11, 2016
*Driller [Signature] Date Jan 11, 2016
*Operator II _____ Date _____
Operator I _____ Date _____
*Signature of Principal Driller and rig operator are required.

RECEIVED
JAN 14 2016
WATER RESOURCES
WESTERN REGION