

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 37-22685
Exam Date: 08/01/2019

1. Current Owner:
HARRY HAGEY 196 ALBION AVE WOODSIDE CA 94602 AND/OR
SHIRLEY HAGEY 196 ALBION AVE WOODSIDE CA 94602
2. Accompanied by: Wes Tinsley & Harry Hagey
Phone No: (650) 851-0966
Address: 196 Albion Ave, Woodside CA 94602
Relationship to permit Holder: Ranch Manager & Permit Holder

3. SOURCE: GROUND WATER

Method of Determination: On-site inspection

B. OVERLAP REVIEW

1. Other water rights with the same place of use: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
See Attachment #1			

Comments: 12 Big Wood River irrigation rights have overlap with domestic irrigation place of use

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

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

C. DIVERSION AND DELIVERY SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:

GROUND WATER SE¼ NE¼ NE¼, Sec. 15, Twp 01S, Rge 18E, B.M. BLAINE County

Method of Determination: On-site inspection and GPS

PLACE OF USE: HEATING

[illegible]

PLACE OF USE: COOLING

[illegible]

PLACE OF USE: DOMESTIC

[illegible]

Method of Determination: On-site inspection

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
D0060729					

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date

2. Measurements: No measurement required per IDAPA 37.03.02 Beneficial Use Examination Rules as the permitted flow rate of 0.20 cfs falls below the 0.24 cfs or greater flow rate amount requiring measurement.

E. FLOW CALCULATIONS

Additional Computation Sheets Attached

Measured Method: N/A – Well is artesian and flow was reported as 254 gpm (0.57 cfs) on the Well Driller Report (Attachment #2)

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: Domestic irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.5 \text{ acres} \times 3.5 \text{ i.r.} = 1.75 \text{ afa}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.04 \text{ cfs} \times 200 \text{ days} \times 1.9835 = 15.9 \text{ afa}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = \mathbf{1.75 \text{ afa}}$$

2. Volume Calculations for Other Uses: Domestic In house use: **0.6 afa**

Heating & Cooling:

$$(0.16 \text{ cfs}) 210 \text{ avg days} \leq \text{freezing in Picabo}^* (0.50 \text{ avg system operation time}) 1.9835 \text{ acre feet per day} = 33.3 \text{ AF}$$

$$(0.16 \text{ cfs}) 155 \text{ avg days} > \text{freezing in Picabo}^* (0.35 \text{ avg system operation time}) 1.9835 \text{ acre feet per day} = 17.2 \text{ AF}$$

$$33.3 \text{ AF} + 17.2 \text{ AF} = \mathbf{50.5 \text{ AF}}$$

* Based on graph of weather averages for Picabo (<https://usclimatedata.com/picabo/idaho/united-stses/usid0280>) (Attachment #3)

$$1.8 \text{ afa domestic irrigation} + 0.6 \text{ afa domestic in-house use} + 50.5 \text{ afa heating \& cooling} = \mathbf{52.9 \text{ afa total volume}}$$



Figure 1: The well head in the pump house



Figure 2: GeoComfort heat pump



Figure 3: Bosch heat pump

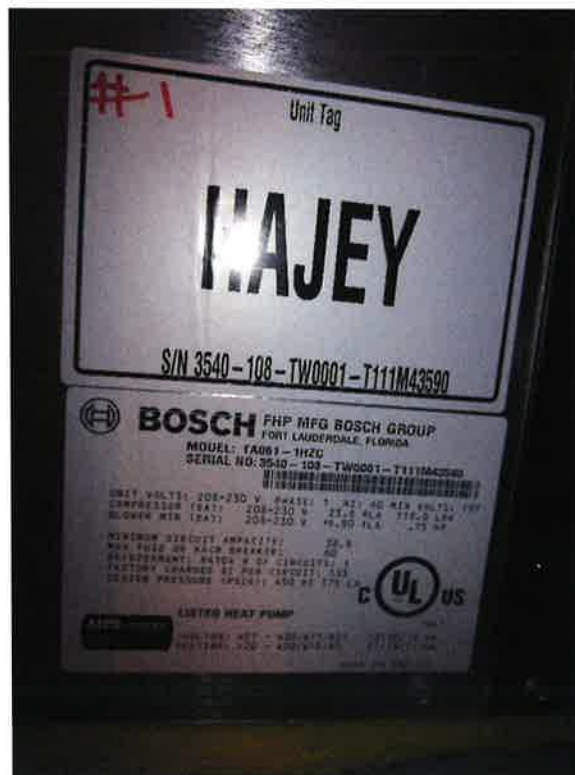


Figure 4: Tag on Bosch heat pumps



Figure 5: Tag on GeoComfort heat pump

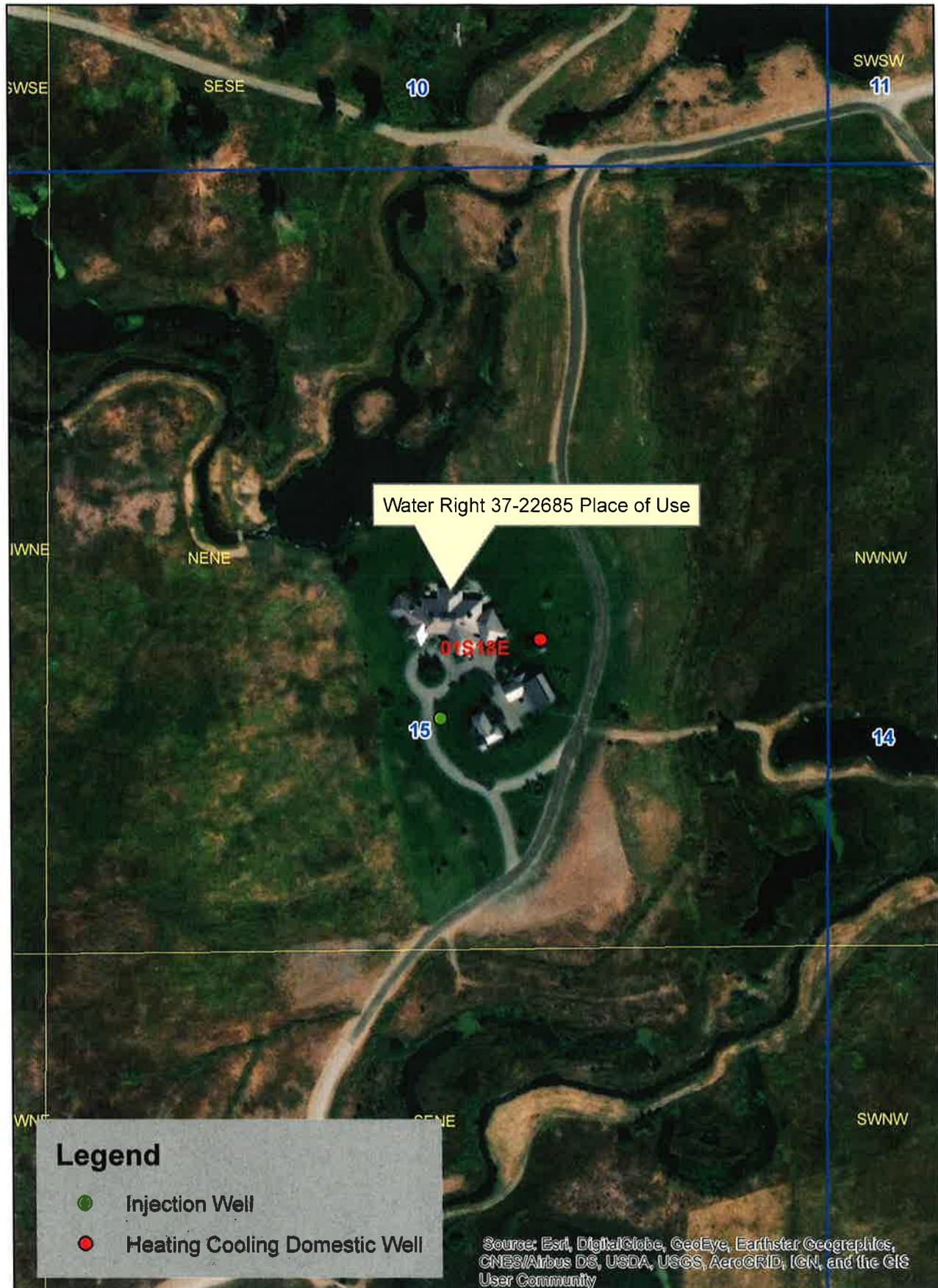


Figure 6: Cover on injection well



Figure 7: The Hagey residence (7,948 sf)

System Diagram



Attachment #1

Water Right No.	Source	Purpose of Use	Basis
37-60	Big Wood River	Irrigation	Decreed
37-61	Big Wood River	Irrigation	Decreed
37-63A	Big Wood River	Irrigation	Decreed
37-64A	Big Wood River	Irrigation	Decreed
37-68A	Big Wood River	Irrigation	Decreed
37-230	Big Wood River	Irrigation	Decreed
37-231B	Big Wood River	Irrigation	Decreed
37-232	Big Wood River	Irrigation	Decreed
37-577AZ	Big Wood River	Irrigation	Decreed
37-62	Big Wood River	Irrigation	Decreed
37-66A	Big Wood River	Irrigation	Decreed
37-67B	Big Wood River	Irrigation	Decreed

Attachment #3

Temperature - Precipitation - Sunshine - Snowfall

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Climate Picabo - Idaho

°C | °F

	Jan	Feb	Mar	Apr	May	Jun
Average high in °F:	30	35	45	56	66	75
Average low in °F:	8	12	22	28	36	42
Av. precipitation in inch:	1.57	1.18	1.18	1.1	1.3	1.02
Days with precipitation:	-	-	-	-	-	-
Hours of sunshine:	-	-	-	-	-	-
Average snowfall in inch:	10	7	3	1	0	0

	Jul	Aug	Sep	Oct	Nov	Dec
Average high in °F:	85	84	73	59	42	30
Average low in °F:	48	47	39	29	19	10
Av. precipitation in inch:	0.39	0.28	0.51	1.1	1.42	1.93
Days with precipitation:	-	-	-	-	-	-
Hours of sunshine:	-	-	-	-	-	-
Average snowfall in inch:	0	0	0	0	5	15

Picabo weather averages

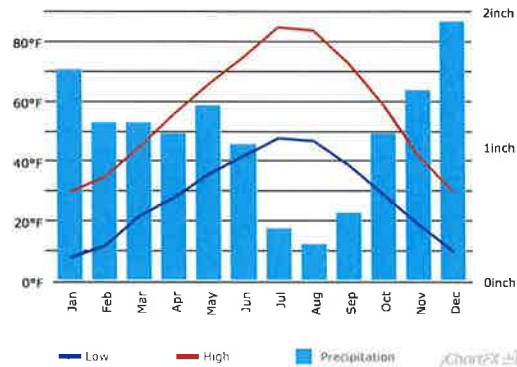
Annual high temperature:	56.7°F
Annual low temperature:	28.3°F
Average temperature:	42.5°F
Average annual precipitation - rainfall:	12.98 inch
Days per year with precipitation - rainfall:	-
Annual hours of sunshine:	-
Av. annual snowfall:	41 inch





Hover for Ad
Valid until Aug. 20

Picabo Climate Graph - Idaho Climate Chart

[Climograph of Picabo on your website](#)

1 Police Say To Carry This

Police say everyone should carry this new safety device that protects against attackers.

[Try Safe Personal Alarm.com](#)

2 Teton Springs Cabin Rentals - Teton Valley Luxury

Teton Valley Golf & Ski Vacation Rentals

[tetonvalleyvacationrentals.com](#)

Climate data for picabo, Longitude: -114.067, Latitude: 43.3086
Average weather Picabo, ID - 83320 - 1981-2010 normals

Jan: January, Feb: February, Mar: March, Apr: April, May: May, Jun: June, Jul: July, Aug: August, Sep: September, Oct: October, Nov: November, Dec: December

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6 FL. OZ.

Valid Until Aug. 20

HOVER FOR AD

Attachment #4



COOLING

HEATING

Model	Entering Water Temp. °F	Water Flow GPM	Suction Pressure PSIG	Discharge Pressure PSIG	Water Temp Rise °F	Air Temp Drop °F	Suction Pressure PSIG	Discharge Pressure PSIG	Water Temp Drop °F	Air Temp Rise °F
TA061 Part Load	30°	7.0					68-84	256-313	5-7	19-23
		14.0					73-89	261-319	4-5	20-25
	40°	7.0	113-138	172-210	18-22	19-23	81-99	277-339	7-8	22-26
		14.0	110-134	161-196	12-14	20-24	86-105	283-346	5-6	23-28
	50°	7.0	116-142	206-252	17-21	19-23	93-114	299-365	8-9	24-29
		14.0	112-137	193-236	12-14	19-24	99-121	305-373	6-7	25-31
	60°	7.0	118-145	241-294	17-21	18-23	106-129	321-392	9-11	26-32
		14.0	115-140	225-275	11-14	19-23	113-138	327-400	7-8	28-34
	70°	7.0	121-148	275-336	17-21	18-22	118-145	342-418	10-12	29-35
		14.0	117-143	257-314	11-14	19-23	126-154	349-427	8-9	30-37
	80°	7.0	123-151	309-378	16-20	18-22	131-160	364-444	11-14	31-38
		14.0	120-146	289-353	11-13	19-23	139-170	371-454	8-10	33-40
	90°	7.0	126-154	344-420	16-20	18-22	143-175	385-471	12-15	33-41
		14.0	122-149	321-392	11-13	18-22	152-186	393-480	9-11	35-43
	100°	7.0	128-157	378-462	16-19	17-21				
		14.0	125-152	353-432	11-13	18-22				
TA061 Full Load	30°	7.0					68-84	256-313	5-7	19-23
		14.0					73-89	261-319	4-5	20-25
	40°	7.0	117-143	182-222	15-19	21-26	81-99	277-339	7-8	22-26
		14.0	114-139	170-208	11-14	22-27	86-105	283-346	5-6	23-28
	50°	7.0	120-147	215-263	15-18	20-25	93-114	299-365	8-9	24-29
		14.0	117-143	201-246	11-14	21-26	99-121	305-373	6-7	25-31
	60°	7.0	123-150	248-304	14-17	20-24	106-129	321-392	9-11	26-32
		14.0	119-146	232-284	11-13	21-25	113-138	327-400	7-8	28-34
	70°	7.0	126-154	282-344	14-17	19-24	118-145	342-418	10-12	29-35
		14.0	122-149	263-322	10-13	20-25	126-154	349-427	8-9	30-37
	80°	7.0	129-157	315-385	13-16	19-23	131-160	364-444	11-14	31-38
		14.0	125-153	294-360	10-12	19-24	139-170	371-454	8-10	33-40
	90°	7.0	132-161	348-426	13-16	18-22	143-175	385-471	12-15	33-41
		14.0	128-156	326-398	10-12	19-23	152-186	393-480	9-11	35-43
	100°	7.0	134-164	382-466	12-15	17-21				
		14.0	131-160	357-436	9-11	18-22				

Attachment #5

Temperature - Precipitation - Sunshine - Snowfall

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Climate Ketchum - Idaho

°C | °F

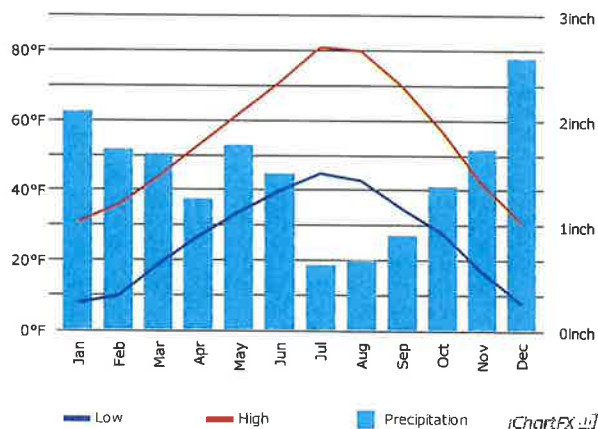
	Jan	Feb	Mar	Apr	May	Jun
Average high in °F:	31	36	44	53	62	71
Average low in °F:	8	10	19	27	34	40
Av. precipitation in inch:	2.09	1.73	1.69	1.26	1.77	1.5
Days with precipitation:	-	-	-	-	-	-
Hours of sunshine:	-	-	-	-	-	-
Average snowfall in inch:	26	20	12	4	0	0

	Jul	Aug	Sep	Oct	Nov	Dec
Average high in °F:	81	80	70	57	42	31
Average low in °F:	45	43	35	28	17	8
Av. precipitation in inch:	0.63	0.67	0.91	1.38	1.73	2.6
Days with precipitation:	-	-	-	-	-	-
Hours of sunshine:	-	-	-	-	-	-
Average snowfall in inch:	0	0	0	2	17	32

Ketchum weather averages

Annual high temperature:	54.8°F
Annual low temperature:	26.2°F
Average temperature:	40.5°F
Average annual precipitation - rainfall:	17.96 inch
Days per year with precipitation - rainfall:	-
Annual hours of sunshine:	-
Av. annual snowfall:	113 inch

Ketchum Climate Graph - Idaho Climate Chart



Climate data for ketchum ranger stn, Longitude: -114.36, Latitude: 43.6841
 Average weather Ketchum, ID - 83353 - 1981-2010 normals

Jan: January, Feb: February, Mar: March, Apr: April, May: May, Jun: June, Jul: July, Aug: August, Sep: September, Oct: October, Nov: November, Dec: December

[Climograph of Ketchum on your website](#)