

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 57-11614

Exam Date: 9/19/2012

1. Current Owner: RICHARD E LARITZ
10555 W AMITY RD
BOISE ID 83709
(208)362-9200
2. Accompanied by: Richard Laritz
Phone No: (208)362-9200
Address: 10555 W Amity Rd., Boise, ID 83709
Relationship to Permit Holder: current owner
Physical Address for the POU/POD: 11448 State Hwy 78, Melba, 83641

3. **SOURCE**

SPRING

TRIBUTARY

SNAKE RIVER

B. OVERLAP REVIEW

1. **Other water rights with the same place of use:** None. These PODs (springs) were developed as a drainage and land restoration program with Corp. of Engineers/Greg Martinez.
2. **Other water rights with the same point of diversion:** None. 2-2072 Opaline Irrigation District (Laritz does not own any shares, nor uses any water from this source for irrigation, etc); 2-10207 Snake River source for irrigation, was relinquished. 57-11577 is a permit with the proof due 12/1/2015, which covers the enlargement to Ponds.

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**

SPRING L2 SE1/4NE1/4NW1/4 Sec. 21, Twp 01N, Rge 03W, B.M. OWYHEE County ~~✖✖~~
SPRING L2 SE1/4NE1/4NW1/4 Sec. 21, Twp 01N, Rge 03W, B.M. OWYHEE County ~~✖✖~~

***** Per a conversation with management on 4/14/2014, no amendment should be required since the PODs are still located within Govt. Lot 2, and the department assigned the Quarter-Quarter for this irregular shaped Quarter.***

Method of Determination: Garmin GPS Map 76S, Arc Map 2006 – 2009 used for shapes, and confirmed by Mr. Laritz at the time of the field examination.

2.

PLACE OF USE: AESTHETIC STORAGE, IRRIGATION STORAGE, and WILDLIFE STORAGE ~~✖✖~~

Twp	Rge	Sec	NE				NW				SW				SE				
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	Totals
01N	03W	21																	
							X												
							L 2												

PLACE OF USE: IRRIGATION, and IRRIGATION FROM STORAGE **

Twp Rge Sec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
01N 03W 21		.3			3.8												4.1
					L 2												

Total Acres: 4.1

Method of Determination: Garmin GPS Map 76S, Arc Map 2006 – 2009 used for shapes, and confirmed by Mr. Laritz at the time of the field examination. *The esri Imagery and 2013 ArcMap Imagery shows the enlargements made to the ponds that will be covered by 57-11677.*

**** Per a conversation with management on 4/14/2014, no amendment should be required since the POU's are still located within Govt. Lot 2; the other small portion is still in the NWNE, and the department assigned the Quarter-Quarter for this irregular Quarter.**

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

<u>ID No.*</u>	<u>Motor Make</u>	<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Pump Serial No. or Discharge Size</u>
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The PODs are springs, and the ponds were dug around Pond #3 and Pond #2. All 3 ponds are interconnected with pipes that overflow via gravity flow between each of them, and then from Pond #1, discharge to the Snake River through a 12" pipe.

(2) pumps are on the system used for irrigation via 1 ½ miles of ¾" poly pipe that splits to different locations with 3/4" drip nozzles, and 2 risers with ¾" hoses and misc size nozzles that are moved around.

(A) Gas Water Pump Model WP20 5 Hp 2 inch discharge to ¾" plastic drip and 2 relief valves

(B) Electric Pump (Red Jacket) unknown model/serial# 1 Hp ¾" discharge

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

D. FLOW MEASUREMENTS

1.

Measurement

<u>Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
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None.

2. Measurements:

Irrigation Pumping Capacity (using 30 psi for very small irrigation, since the psi is unknown):

(A) Gas Water Pump: $(8.8 \times 5\text{Hp} \times 0.7 \text{ eff}) / [2 \text{ ft} + (30 \text{ psi} \times 2.31)] = 0.43 \text{ cfs}$

(B) Electric Pump (Red Jacket): $(8.8 \times 1 \text{ Hp} \times 0.7 \text{ eff}) / [2 \text{ ft} + (30 \text{ psi} \times 2.31)] = 0.09 \text{ cfs}$

(A) + (B) = 0.52 capacity

3/4" drip nozzles = (5 gallon/hr/nozzle

$[(5 \text{ gallon/hr}) \times 300 \text{ heads}] / 60 \text{ min.} = 25 \text{ gpm} \times 0.00223 = 0.06 \text{ cfs}$ for the drip system

3/4" pipe conversion for the 3/4" hoses = $0.02 \text{ cfs} \times 2 = 0.04 \text{ cfs}$

4.1 acres found being irrigated $\times 0.03 \text{ cfs} = 0.12 \text{ cfs}$ max. allowed

12" overflow pipe discharging to the Snake River (this is to show a constant flow of water is available for irrigation purposes):

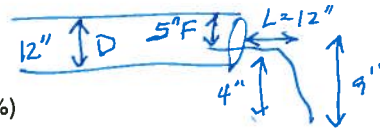
F = 5"

D = 12"

F/D = 42% (F/D factor for Flow in GPM from a partially filled pipe = 0.627 at 40%)

L = 12"

GPM = (F/D factor $\times$ D-squared $\times$ L-squared) = 28.9 cfs being discharged back to the Snake River



Since the drip nozzles and the (2) 3/4" hoses run at the same time: $0.06 + 0.04 \text{ cfs} = 0.10 \text{ cfs}$ required to run this irrigation system.

RECOMMEND:

Irrigation: 0.10 cfs

E. FLOW CALCULATIONS

Measured Method:

None.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$V_{I.R.} = (4.1 \text{ Acres Irrigated}) \times (4.5 \text{ Irrigation Requirement}) = 18.5 \text{ af}$

$V_{D.R.} = [0.10 \text{ Diversion Rate (cfs)}] \times (240 \text{ Days in Irrigation season}) \times 1.9835 = 51.6 \text{ af}$

$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 18.5 \text{ af}$

2. Volume Calculations for Other Uses:

Aesthetic Storage, Irrigation Storage, Wildlife Storage:

(1.9 total acres for Ponds # 1 - #3) X 10' average depth = 19.0 af + 2.1 af seepage loss = 21.1 af

*****See Seepage Loss Spread Sheet (attached).**

RECOMMEND:

Irrigation 18.5 af

Irrigation from Storage 18.5 af

Aesthetic Storage 20.0 af (as permitted)

Irrigation Storage 20.0 af (as permitted)

Wildlife Storage 20.0 af (as permitted)

Total Annual Volume 20.0 af (as permitted)

G. NARRATIVE/REMARKS/COMMENTS

At the time of the field examination, 3 interconnected ponds were found. Pond #3 was developed around a collection of springs (common name 20-springs), with (3) 6 inch buried overflow pipes that go under the road to Pond #2. Pond #2 was developed around a collection of springs (common name 5-springs). Pond #2 connects to Pond #1 through (2) 10 inch overflow pipes that go under the road to Pond #1. At the northeast end of Pond #1 is a screened overflow that discharges to a buried 12 inch pipe that discharges the flow from the springs back to the Snake River. The average depth of the ponds is 10 ft. For irrigation purposes there is an electric pump on the northeast end of Pond #2, and a gas pump located on the southwest end of Pond #3. Irrigation for the 300 poplar trees, willow trees, and native grasses surrounding the ponds, the open area to the north, and the area surrounding the (2) 5th wheels is accomplished through the 1 1/2 mile of 3/4 inch poly pipe that is located above the ground, with splits that go different directions around the trees etc and reduce to 3/4 inch drip nozzles (5 gallons/hour drip nozzles). The Gas Water Pump model WP20 is a 5Hp, 3" discharge that reduces to 3/4 plastic drip and 2 pressure relief nozzles. The electric Red Jacket is a 1 Hp (unknown model/serial#) with 3/4 inch discharge to 3/4 inch poly pipe and 3/4 inch drip nozzles. Beneficial Use is for Wildlife Storage (bass, blue and golden trout, sturgeon, deer, raccoon, otter, mink, ducks, and red tail), Aesthetic Storage, Irrigation Storage, Irrigation from Storage, and Irrigation. The enlargement of pond #3 is covered under permit 57-11677 (the proof is due on 12/1/2015). There is no other source used for irrigation purposes since 2-10207 from the Snake River was relinquished, and there are no shares or irrigation at this POU from Opaline Irrigation District.

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

H. RECOMMENDATIONS

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
WILDLIFE STORAGE	01/01 to 12/31		20.00 AF
AESTHETIC STORAGE	01/01 to 12/31		20.00 AF
IRRIGATION STORAGE	01/01 to 12/31		20.00 AF
IRRIGATION FROM STORAGE	03/01 to 11/15		18.50 AF
IRRIGATION	03/01 to 11/15	0.100 CFS	18.50 AF
	<u>Totals:</u>	0.100 CFS	20.00 AF

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

****See previous comment under POD and POU in reference to the irregular Quarter-Quarter.**

I. AUTHENTICATION

Field Examiner's Name Jenny Hemminger Date: 4/15/2014

SEEPAGE CALCULATIONS

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total annual seepage losses from a pond.

FILE NUMBER	57-11614
REVIEWER	S. Hemenway
DATE	4/45/2014

INPUTS

SQ. FT. Calculator Pond Surface area in acres
1.9

POND SURFACE AREA (SQ. FT.)	82764
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SUGGESTED SEEPAGE RATE (FT/DAY)	0.0030
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Use the table below to find the "SUGGESTED SEEPAGE RATES".

FORMULA: (Surface Area X Seepage Rate) / 7.48 = Gallons Per Day loss

CONVERT TO GPD	1857	GPD
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TOTAL SEEPAGE LOSS (AFA)	2.1	AFA
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SUGGESTED SEEPAGE RATES FOR DIFFERENT SOIL TYPES:
SM (silty sand, sand silt mixtures) = 0.20 ft per day
ML (inorganic silts - very fine sands, silty, or clayey fine sands) = 0.016 ft per day
SC (clayey sands, sand clay mixtures) = 0.007 ft per day
CL (Low to medium plasticity clays) = 0.003 ft per day
CH (high plasticity clays) = 0.0003 ft per day
LINED PONDS (liners can be chemical, fabric, or bentonite) = 0 ft per day
Ponds Intercepting Groundwater (excavated ponds filled with shallow Ground Water) = 0 ft per day

Evaporation Loss Calculation

FILE NUMBER	57-11614
REVIEWER	S. Hemenway
DATE	4/15/2014

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the annual evaporation losses from a pond.

The acronyms used on the Kimberly Research Center website are defined below:
P = Precipitation
ET= Evapotranspiration
P _d = Precipitation deficit
P _d =ET-P

USING THIS SPREADSHEET

To ascertain the evaporation from a pond, you will need to go to the Kimberly Research Center website. The link is found below. This web site provides the Precipitation Deficit for the area where the pond is located. The Precipitation Deficit is the total amount of free pan evaporation minus the precipitation for a given area, which gives the total amount of evaporative losses incurred by the pond. There are several weather sites that are used, and the entire state is pretty much covered. IDWR staff can find the nearest site using ArcMap. The shape file containing the sites can be found at <X:/Spatial/Climate/ETIdahostations.shp>.

Found at: <http://www.kimberly.uidaho.edu/ETIdaho/online.php>

Precipitation Deficit

Station: Twin Falls 2 NNE (NWS -- 109294)

Month	mm/day ¹	Days per month	mm/Month
Jan	0.00	31	0.00
Feb	0.18	28	5.04
March	1.22	31	37.82
April	2.51	30	75.30
May	3.74	31	115.94
June	4.22	30	126.60
July	5.01	31	155.31
August	4.27	31	132.37
September	3.06	30	91.80
October	1.89	31	58.59
November	0.00	30	0.00
December	0.00	31	0.00

PLEASE NOTE: We cannot use the season average, because there are several areas in Northern Idaho with a negative Precipitation Deficit. Therefore, we must enter each monthly deficit, and enter in a zero (0) for each negative month. The reason for this is that precipitation can only offset evaporation to the extent of the evaporation.

Please enter the daily average Precipitation Deficit as shown in the example below.

¹Negative monthly mean values should be entered in the above table as "0".

Total mm/year = 798.77

$[(\text{mm/yr}) \div (\text{convert to feet})] \times (\text{Surface area of pond, in acres}) = \text{Evaporation Loss in Acre Feet}$

(798.77 ÷ 304.8) X 1.00 = 2.6 AFA

TOTAL STORAGE

FILE NUMBER	57-11614
REVIEWER	S. Hemenway
DATE	4/15/2014

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total seepage, evaporation and fill capacity required for a pond

Surface Area (in Acres)	1.9	"Surface Area" depicts the actual surface area of the pond measured, determined by ArcMap, or estimated.
Average Pond Depth (in feet)	10	"Average Pond Depth" depicts the actual depth of the pond either measured or estimated.
Pond Capacity (in acre feet)	19	Pond Capacity is calculated by multiplying the Pond Surface Area by the Average Pond Depth.

Volume Needed Above Initial Fill to Fulfill From Storage Needs- "Multiple Fills" (in acre feet)	0	The "Volume Needed Above Initial Fill" is the acre-feet of water required to meet <i>afrom storage</i> component if the <i>from storage</i> component exceeds a one time fill. This section should not include the amount of water needed to fill the pond initially or the amount of water needed to maintain the pond level due to evaporation or seepage. For example: if a pond has a capacity of 5 acre feet and 2.5 acre feet of seepage and evaporation, but the pond is used for irrigation that requires 10 acre feet of from storage for the irrigation use, then you would insert 5 acre feet into this location (10 acre feet needed - 5 acre feet from the initial fill = 5 acre feet of additional storage needed). PLEASE NOTE: You must have a "From Storage" componet exceeding the intial fill on the permit to include a volume in this space.
Estimated Seepage Loss (in acre feet)	2.1	The "Estimated Seepage Loss" is automatically is automatically carried over from the Seepage Loss Sheet
Estimated Evaporation Loss (in acre feet)	2.6	The "Estimated Evaporation Loss" is automatically is automatically carried over from the Evaporation Loss Sheet
Total Volume Required (in acre feet)	23.7	"The Total Volume Required" is calculated by adding the Pond Capacity, Multiple Fills, Seepage Loss, and Evaporation Loss amounts to determine the total amount of storage required.

Flow Rate Into Pond (in cfs)	28.90	The "Flow Rate" into the Pond depicts the actual flow either measured or estimated into the pond.
Highest Daily Evaporation Rate From Evaporation Tab. (in mm/day)	4.94	To determine the "Highest Daily Evaporation Rate" go the the Evaporation Loss Sheet and enter in the highest number recorded in the Precipitation Deficit table.
Maximum Required Daily Maintenance Volume (in acre feet per day)	0.04	"Maximum Required Daily Maintenance Volume" is the maximum volume of water needed on any given day during the year, and is caluated by adding the highest daily evaporation loss to the average daily seepage loss in acre feet. The average daily seepage loss is calculated by dividing the "Estimated Seepage Loss" by 365 days. This is acceptable, since the seepage rate shouldn't vary throughout the season unless the pond completely freezes over during the winter months. The highest daily evaporation loss is calculated by multiplying the Highest Daily Evaporation Rate by the 304.8 conversion factor and multiplying this number by the pond surface area to attain a combined daily acre feet requirement.
Minimum Maintenance Flow (in cfs)	0.02	The "Minimum Maintenance Flow" is the minimum amount of flow required to maintain the level o the pond. This number is determine by dividing the "Daily Required Maintenance Volume" by 1.9835. This flow can be used to determine if the flow rate into the pond is adequate to maintain the pond level.
Days Required to Fill the Pond	0	The "Days Required to Fill the Pond" is calculated by dividing the "Pond Capacity" by the "Flow Rate" minus "Minimum Maintenance Flow" multiplied by 1.9835. This section will assist you in determining if the flow rate being diverted to the pond is adequate to fill the pond while maintaining the pond level. The length of time to fill the pond will help determine if the flow rate is adequate for the size of pond being proposed.
Days Required to Fill the Pond at 13,000 gallons per day	5585	The "Days Required to Fill the Pond at 13,000 gallons per day" is calculated converting the "Pond Capacity" and the "Maximum Daily Maintenance Volume" to gallons. The "Pond Capacity is then divided by 13,000 gallons minus the "Maximum Daily Maintenance Volume" in gallons to determine the number of days to fill pond.

28.9 cfs was measured
at the 12 inch overflow
being discharged to the
Snake River

ET Idaho 2009: Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho

Please send suggestions for improving this site to robison@kimberly.uidaho.edu Copyright 2010, University of Idaho.

Caldwell (NWS --101380)

Statistics based on thirty

For a different land cover or crop click on the above link.

You can highlight this table and copy via the clipboard to a Microsoft Excel or OpenOffice spreadsheet to plot or otherwise work with this data.

Open water - shallow systems (ponds, streams)														
Precipitation Deficit (Click here for a graph)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Growing Season ^a	Non Growing Season ^b
Mean	mm/day												mm	
Monthly ^c	-0.83	0.18	1.22	2.51	3.74	4.22	5.01	4.27	3.06	1.89	-0.12	-0.78	753	0
15-Day Moving Average ^d	-0.88	-0.03	1.14	2.54	3.85	4.28	5.06	4.17	2.93	1.89	-0.07	-0.72		
7-Day Moving Average ^e	-0.86	0.10	1.19	2.51	3.78	4.22	5.06	4.25	2.98	1.89	-0.12	-0.76		
3-Day Moving Average ^f	-0.83	0.17	1.22	2.52	3.75	4.21	5.03	4.28	3.03	1.89	-0.11	-0.77		
Standard Deviation	mm/day												mm	
Monthly	1.13	0.81	1.37	0.92	1.15	0.78	1.01	1.22	0.87	0.93	0.79	1.24	113	0
15-Day Moving Average	1.13	1.09	1.27	1.07	1.20	1.05	0.72	1.17	1.21	0.92	0.91	1.04		
7-Day Moving Average	1.53	1.44	1.54	1.58	1.64	1.68	0.85	1.39	1.56	1.29	1.30	1.36		
3-Day Moving Average	2.08	1.83	2.04	2.23	2.19	2.30	1.19	1.67	1.98	1.70	1.77	1.87		
20% Exceedance	mm/day												mm	
Monthly	-0.26	0.78	1.95	3.18	4.25	5.17	5.49	4.95	3.76	2.44	0.50	-0.19	850	0
15-Day Moving Average	0.39	1.26	2.79	3.94	5.49	5.66	5.77	5.35	4.37	3.14	1.19	0.50		
7-Day Moving Average	0.67	1.99	3.41	4.83	6.18	6.28	6.14	5.82	4.88	3.76	1.68	0.72		
3-Day Moving Average	0.86	2.37	4.18	5.46	6.72	6.90	6.49	6.07	5.22	3.97	2.01	0.99		
	mm/day												mm	

80% Exceedance																
Monthly	-1.36	-0.53	0.47	1.56	3.01	3.54	4.55	3.71	2.41	1.34	-0.83	-1.43		652	0	652
15-Day Moving Average	-2.47	-1.53	-0.71	0.72	2.09	2.26	3.72	2.51	1.29	0.56	-1.75	-2.42				
7-Day Moving Average	-4.65	-3.10	-2.43	-1.68	0.22	-0.06	3.08	0.81	-0.60	-1.11	-3.13	-3.96				
3-Day Moving Average	-8.21	-5.59	-4.85	-4.91	-3.10	-3.71	1.29	-1.11	-3.98	-4.17	-5.71	-7.94				
Ave Highest P_{def}	mm/day													--		
15-Day Moving Average ^b	0.21	0.77	2.07	3.41	4.71	5.19	5.40	4.79	3.74	2.61	0.65	0.22				
7-Day Moving Average ^h	0.48	1.50	2.77	4.30	5.44	5.91	5.77	5.35	4.41	3.27	1.18	0.47				
3-Day Moving Average ⁱ	0.70	1.91	3.48	5.04	6.23	6.57	6.19	5.70	4.90	3.64	1.65	0.74				
Ave Lowest P_{def}	mm/day													--		
15-Day Moving Average ^g	-1.64	-0.50	0.41	1.66	2.86	3.32	4.52	3.59	2.21	1.17	-0.78	-1.52				
7-Day Moving Average ^h	-3.07	-1.61	-0.67	0.32	1.34	1.62	3.92	2.68	1.11	0.13	-1.90	-2.59				
3-Day Moving Average ⁱ	-5.54	-3.31	-2.66	-2.09	-1.05	-0.86	2.46	1.22	-0.66	-1.60	-3.80	-4.95				
Special normal distribution parameters for monthly, seasonal, and annual intervals														--		
Skew	-0.34	-0.50	-0.28	0.01	-0.26	-0.09	-0.67	-0.38	-0.87	0.15	0.28	-0.20		-0.41	0.00	-0.41
Kurtosis	1.02	3.18	0.90	3.14	0.93	2.06	2.13	1.06	3.20	0.66	2.35	0.83		2.77	0.00	2.77

^a Growing Season: This is usually the time from green up or planting in the spring to a killing frost or harvest in the fall. It is not applicable for entries without a growing season and will be blank.

^b Nongrowing Season: This is usually the time from a killing frost or harvest in the fall to the of green up in the spring. It is not applicable for entries without a growing season.

^c Mean of the average daily value for month

^d Mean of the fourteen 15-day period averages contained in the month

^e Mean of the twenty three 7-day period averages contained in the month

^f Mean of the twenty seven 3-day period averages contained in the month

^g Mean of the highest/lowest 15-day period average in month

^h Mean of the highest/lowest 7-day period average in month

ⁱ Mean of the highest/lowest 3-day period average in month

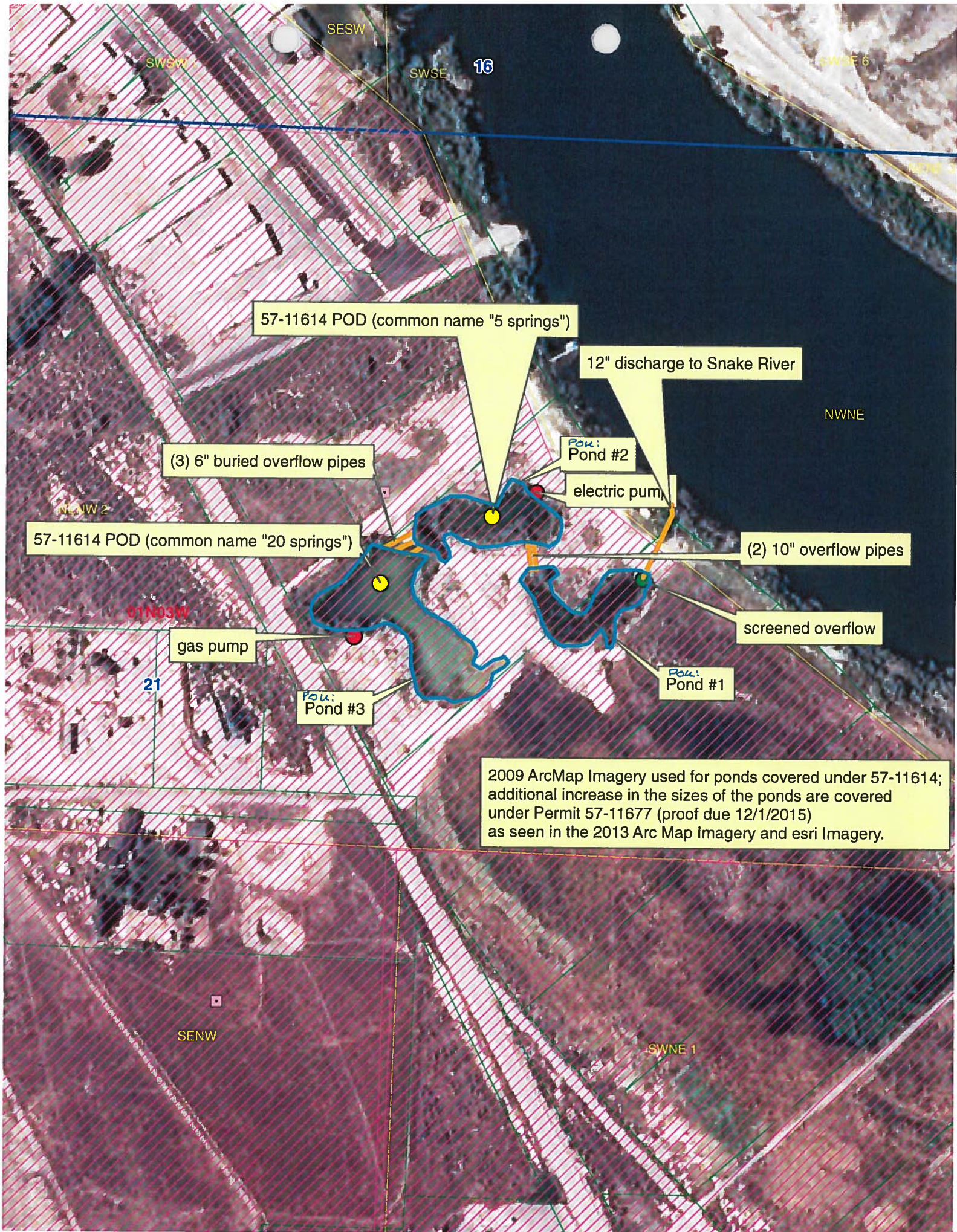
This work and report were prepared by the University of Idaho Research and Extension Center at Kimberly, Idaho under contract with the Idaho Department of Water Resources. Work was supported by funding from IDWR and the Idaho Agricultural Experiment Station

and Idaho Engineering Experiment Station. The authors gratefully acknowledge the long-term evapotranspiration data collection and long-standing advice provided by Dr. James L. Wright, USDA-ARS Kimberly (ret.), the more than two decades of high quality agricultural weather data collection by the U.S. Bureau of Reclamation AgriMet system, and the very long-standing, routine data collection by the hundreds of cooperative weather station volunteers across the state who, for more than one-hundred years, have faithfully observed daily air temperature and precipitation.

The citation for the evapotranspiration data used from this site should be: *Allen, Richard G. and Clarence W. Robison, 2009. Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho: Supplement updating the Time Series through December 2008, Research Technical Completion Report, Kimberly Research and Extension Center, University of Idaho, Moscow, ID.*

Questions regarding the data should be addressed to [Clarence W. Robison](#) or [Richard G. Allen](#), University of Idaho, Kimberly Research and Extension Center, 3793 North 3600 East, Kimberly, ID 83341. Telephone (208)-423-6610





57-11614 POD (common name "5 springs")

12" discharge to Snake River

(3) 6" buried overflow pipes

Pou:
Pond #2

electric pump

57-11614 POD (common name "20 springs")

(2) 10" overflow pipes

screened overflow

gas pump

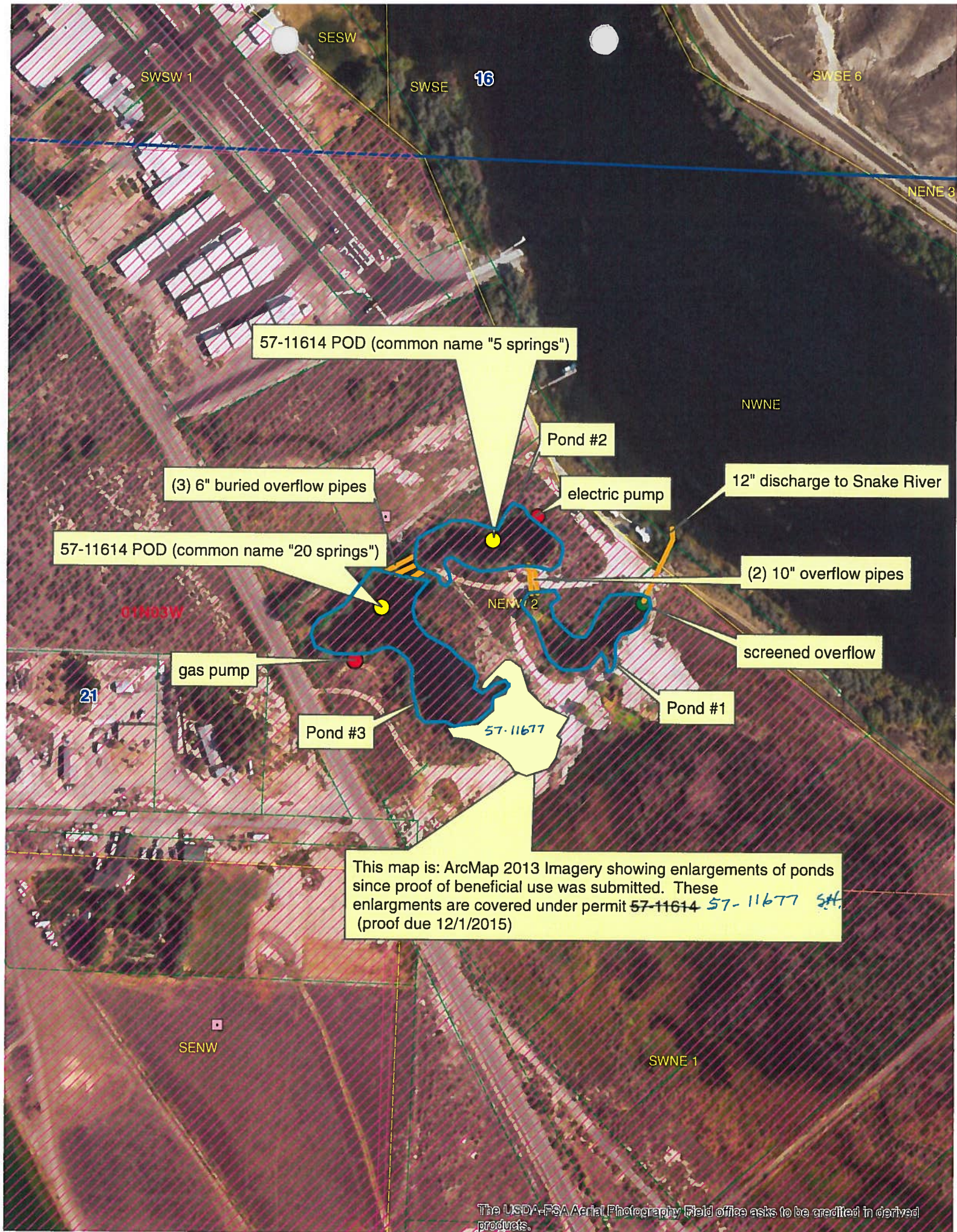
Pou:
Pond #1

Pou:
Pond #3

2009 ArcMap Imagery used for ponds covered under 57-11614; additional increase in the sizes of the ponds are covered under Permit 57-11677 (proof due 12/1/2015) as seen in the 2013 Arc Map Imagery and esri Imagery.

57-11614

S. Hemerwal

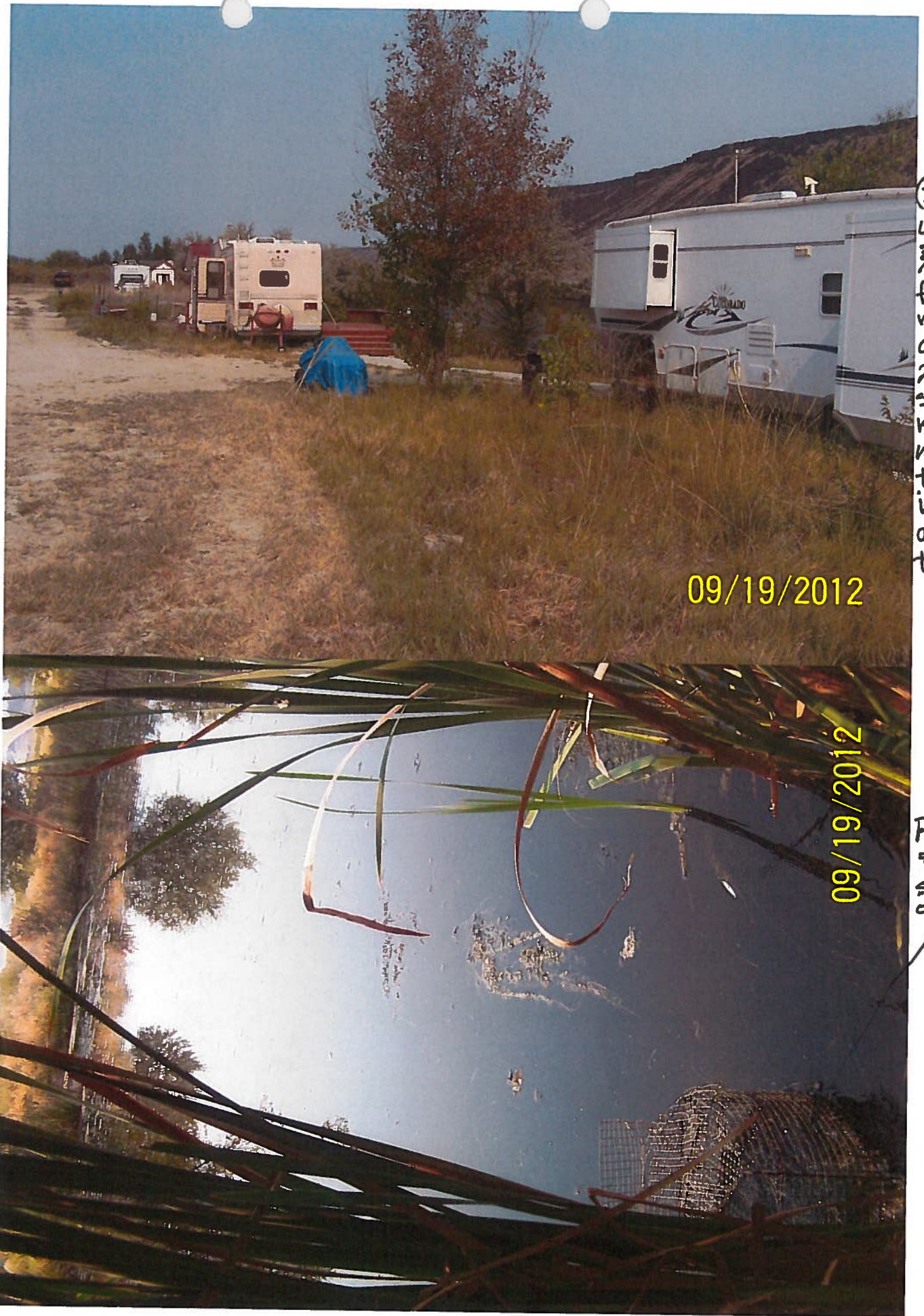


57-11614

S. Homonaka



57-11614 POU: Irrigation
3/4" poly from risers and 2 misc. size nozzles around 5th wheels by the river; 1 1/2 miles of plastic pipe with 3/4" drip lines for the 300 tree and grasses planted surrounding the grounds.
(2) pumps: 5 Hp Gas Water Pump model WP20, 2" discharge reducing to 3/4" and 2 pressure relief nozzles. A 1 Hp Electric Red Jacket pump with 3/4" discharge to 3/4" poly and 3/4" drip system throughout the grounds. 5gall/hr. nozzles. SH



(3) 5th
wheeler
3/4" poly
from
risers
also
2 misc
size
nozzles
nozzles
to
irrigate
area +
trees

09/19/2012

09/19/2012

Pond
#1
screens
overflow

57-11614

S. Hemerway



09/19/2012

09/19/2012

Pond
#2

57-11614

S. Hemerway



by
Bond
#2
electric
Red
Jacket
1 Hp
pump
3/4"
discharge



12"
discharge
(overflow)
from ponds,
to
Snake
River

57-11614

S. Hemenway



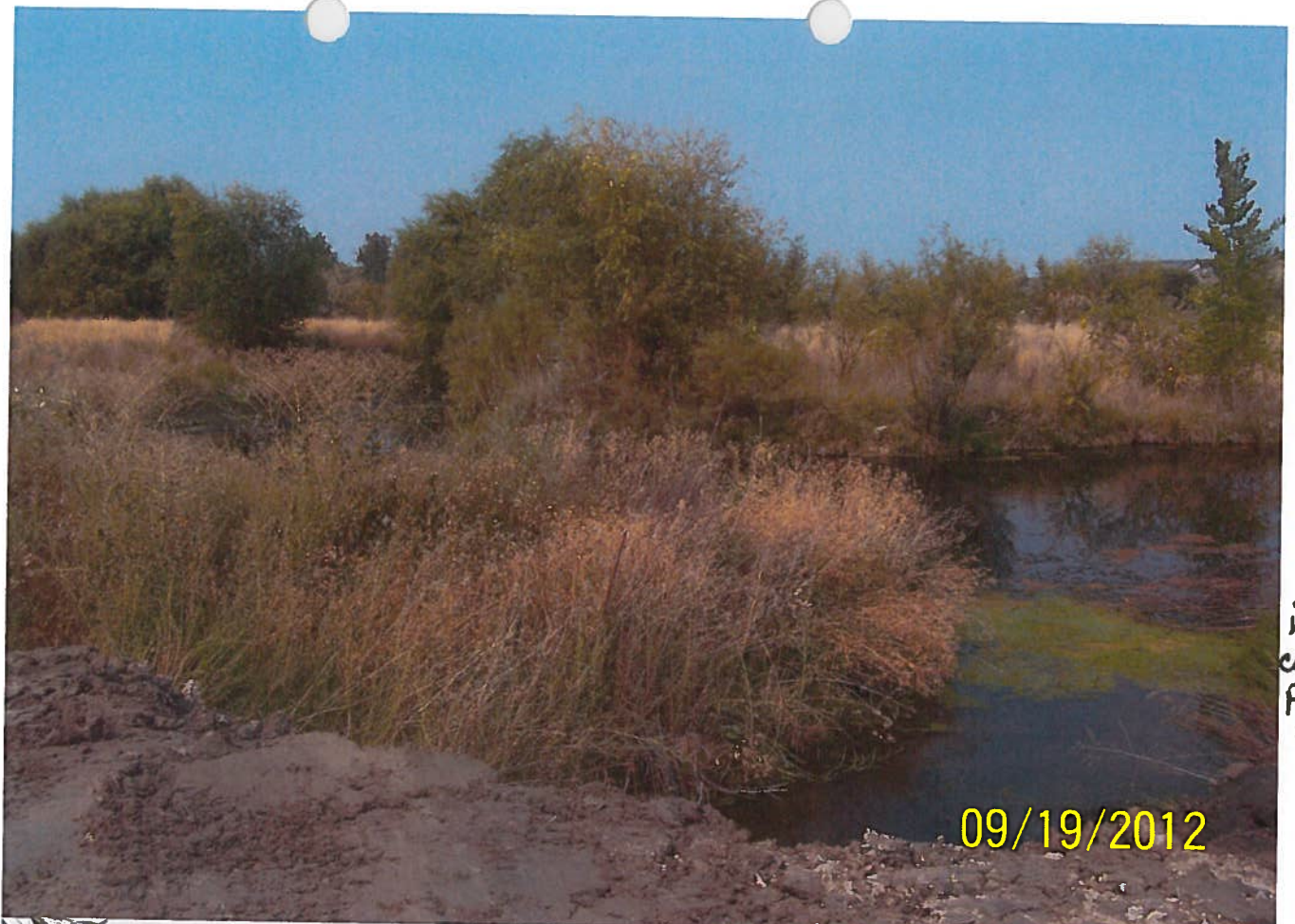
by
Pond#3
gas
Water
Pump
model
WP20
2"
dischar
reducer
to 3/4"
drip
line
(300
trees)
5 Hp
+ 2
nozzle
to release
presaw



1 1/2
miles
of 3/4"
plastic
pipe
with
drip
system
for
each of
the
300
trees

57-11614

S. Hemenway



inter-
connected
pond
#3

09/19/2012

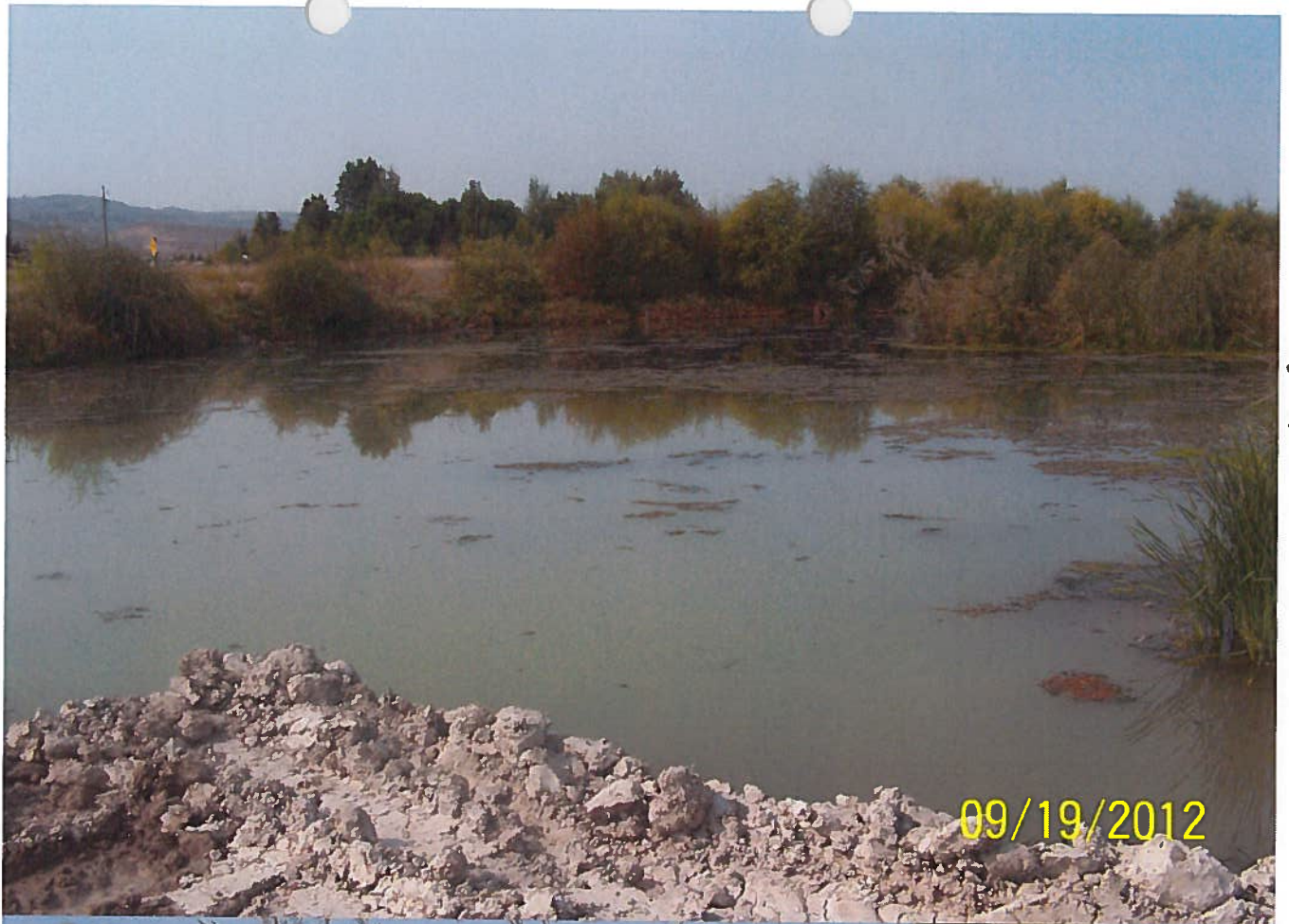


pond
#3
overflow

09/19/2012

57-11614

S. Hernerway



pond
#3



more
 $\frac{3}{4}$ "
drip
line
for the
trees

57-11614

S. Hernandez



300
trees +
grasses

09/19/2012



pond
#3

09/19/2012

57-11614

S. HERNIMAN