

MAY 23 2005
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DEPARTMENT OF WATER RESOURCES

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

Permit No: 47-7758
Exam Date: 2/28/05
****** This exam was started**

This completion is based on the previous exam and my recent review.

1. Current Owner: J D MC COLLUM
PO BOX 112
TWIN FALLS ID 83303-0112
(208)733-2163
2. Accompanied by: **Dave McCollum on 2/28/05**
Phone No: **736-0829**
Relationship to Permit Holder: **Dave McCollum is the owner/developer**

TRIBUTARY

1. Other water rights with the same place of use: **Fish Prop: 36-7239, 47-8356, 47-8357 and 02-7472**
Irrig: 36-7239, 36-15455 and shares in TFCC

2. Other water rights with the same point of diversion: **47-7813 for Power**

PLACE OF USE: HEATING

[illegible]

PLACE OF USE: IRRIGATION

Twp Rge Sec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
09S 17E 28											2.0						2.0
09S 17E 29																16.0	16.0
09S 17E 32	25.0			2.0													27.0
09S 17E 33					9.0	19.0	21.0	15.0	3.0								67.0
					L 1			L 2									

Total Acres: 112

PLACE OF USE: FISH PROPAGATION

Twp Rge Sec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
09S 17E 29																X	
09S 17E 32	X																
09S 17E 33					X	X											
					L 1												

Method of Determination:

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.

<u>Well or Diversion 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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Artesian Well

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

D. FLOW MEASUREMENTS

1.

<u>Measurement Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
In line meter		Grain Land		12231	10"	

2. Measurements: **SEE STANTON Measurement of 10/30/1990 for permits 47-7813 and 47-7758. Allow 6.25 cfs total flow as documented in 47-7758 file.**

E. FLOW CALCULATIONS

_____Additional Computation Sheets Attached

Measured Method:

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

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

112	4	=	448
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$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 =$$

2.01	246	1.9835	= 980.8
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$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 448$$

2. Volume Calculations for Other Uses:

$$\text{Heating } 0.36 \text{ cfs} \times 200 \text{ day heating season/year} \times 1.9835 \text{ af/day/cfs} = 142 \text{ afa}$$

$$\text{Fish Prop: } 6.25 \text{ cfs} \times 365 \text{ day use season /year} \times 1.9835 \text{ af/day/cfs} = 4525 \text{ afa (note recommended 4508 as documented use in 1991.)}$$

G. NARRATIVE/REMARKS/COMMENTS

Permits 47-7758 and 47-7813 have been developed from a single artesian hot water well drilled in 1982 (Started by Denton in 1981 and completed by Walker Water Systems in 1982). The well produces 6.25 cfs of approximately 103 degree F water at 176 psi. Permit 47-7813 produces power from the well head using the artesian pressure. (See Holmes and Stanton reports for description of turbine and generator) The water is then used for Fish Propagation, heating and a supplemental source of water for irrigation of the golf course. The well is located east of the club house for the golf course in a building. From that building pipelines are run to a house, shops and club house for heating. All spent heating water is collected and conveyed to fish ponds. The main flow from the well is piped to the generator house immediately north of the well house where a turbine and generator are located that generate power. Outflow from the generator is collected and mixed with cold water from Perrine Coulee and from Alpheus Creek Springs and distributed to fish ponds. Outfall from the fish ponds at two points is pumped for irrigation use on the golf course or discharged into the Snake River. At the time of the Stanton and Holmes exams only the east relift pump for irrigation existed but in recent years the west set of relift pumps have been added. Rights combined for the fish propagation uses include: 36-7239, 47-8356, 47-8357, 02-7472 and 47-7758. Rights combined for irrigation include: 36-7239, 36-15455, 47-7758 and shares in the Twin Falls Canal Co which cover the 112 acres irrigated. The acres irrigated as decreed under 36-7239 and 36-15455 have not changed. The shape for these acres was never input into SDE. A shape was created during this licensing review using a 2004 photo projected in UTM and it totals 112 acres. This shape was associated with the basin 36 rights. Due to error in GCDB and projection the distribution within tracts does not exactly match the decreed tracts but the distribution of the acres for this exam was forced to match the decreed tract acres so as to be consistent.

Since 1990 IDWR has monitored the hot water use in the Twin Falls Ground Water Management Area (See attached graph or refer to data maintained by Ken Neeley) including this hot well noted as (Canyon Springs Well). Peek use was observed in 1991 of 4508 acre feet which equates to 6.25 cfs running continuously for the entire year. Since 1991 the use has dropped off probably due to reduced discharge because of Pristine Springs new well coming on line and

affecting the pressures in the hot water aquifer system. Included in the file is a graph of well use for the area.

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

H. RECOMMENDATIONS

1. Recommended Amounts

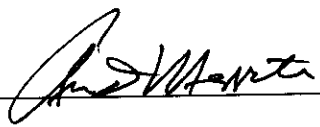
<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
HEATING	01/01 to 12/31	0.360 CFS	142.00 AF
IRRIGATION	03/15 to 11/15	2.010 CFS	448.00 AF
FISH PROPAGATION	01/01 to 12/31	6.250 CFS	4,508.00 AF
	<u>Totals:</u>	6.250 CFS	4,508.00 AF

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

I. AUTHENTICATION

Field Examiner's Name  Date 5/19/05

Reviewer _____ Date _____

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No. 47-7758

1. Owner: J. D. McCollum Phone No. 783-4506

Current Address: P.O. Box 112, Twin Falls, ID 83303

2. Accompanied by: Mr. McCollum EXAM. DATE: 10-30-90

Address: _____ Phone No. _____

Relationship to Permit Holder: _____

3. Source: Groundwater tributary to _____

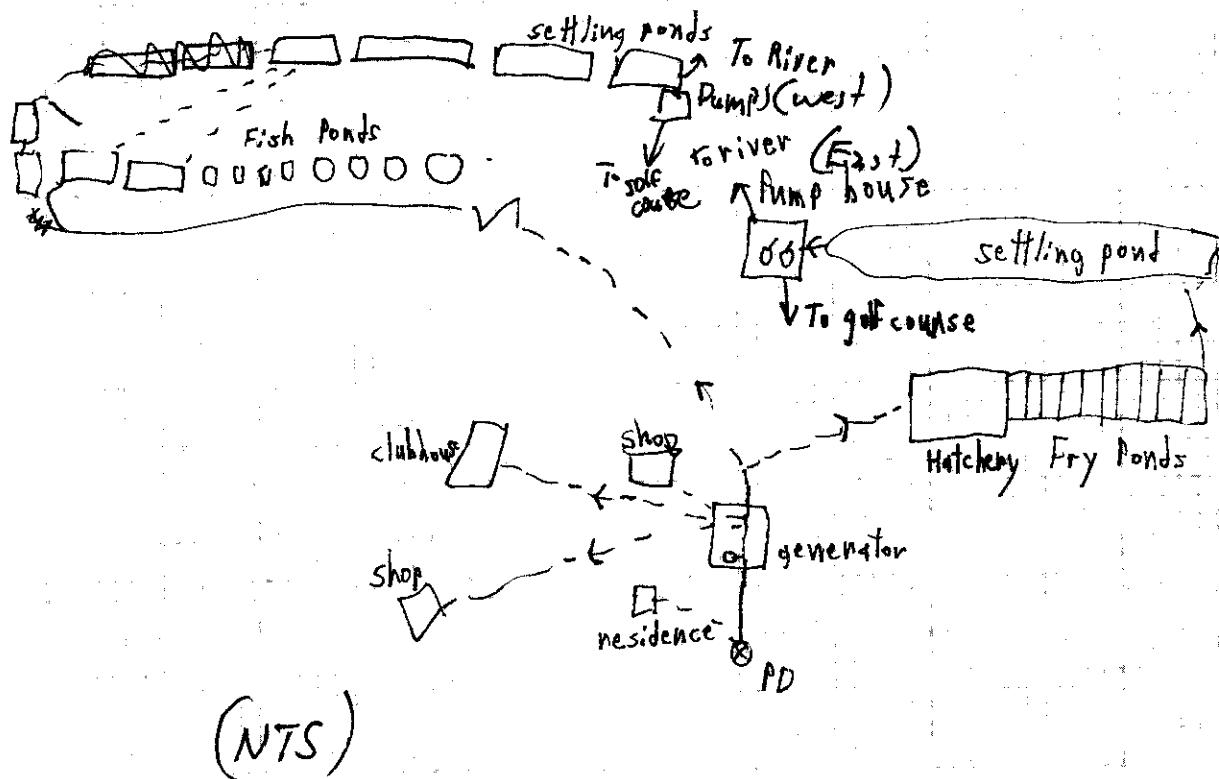
B. OVERLAP REVIEW

1. Other water rights with same place of use: 47-7813, 47-7605 ^{Lapsed}
_____ ☐ Copies Attached

2. Other water rights with same point of diversion: 47-7813
_____ ☐ Copies Attached ☐ Copies of Field Exam's Attached

C. SYSTEM DESCRIPTION

1. **Diversion System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe i.d. as applicable. ☐ Alternative diagram attached



Scale: 1" = _____

2. ☒ Copy of U.S.G.S. Quadrangle Attached
Showing location(s) of point(s) of diversion and
place(s) of use (required).

☒ Photo of Diversion and System Attached

(required for all but single household domestic groundwater, and stockwater.

☒ Aerial Photo Attached
(required for irrigation of 10 acres or more).

System Description (continued)

3. Narrative: Description (As operating at time of measurement. Indicate pressure, number of sprinklers, etc.)

Artesian hot-water well, lines to generator, heating of clubhouse, residence, & shop buildings. Heating of ~~main~~ residence is via direct line from well, all other uses take off from main line to power plant. Flow meter is in power house in front (upstream) of generator. Separate heating lines to clubhouse & shop (2-3" lines). Buried line west from generator to fish ponds. Buried line east to hatchery building and fry raceways. Discharge into large settling pond (Lake McCollum). Water is pumped from Lake McCollum into buried sprinkler on golf course (Canyon Springs Country Club). Water is also pumped from outflow of west fish ponds.

☐ See Remarks on page 4 for continuation

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
	U.S. Motors	50	6232/P01N322R023R	Lynx	LP 87251
	"	50	6232/P04P02DR036R	"	LP 87280

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

5. Point(s) of Diversion:

Ident. No.	Gov't. Lot	1/4	1/4	1/4	Sec.	Twp.	Rge.	County	Method of Determination/Remarks
		E	NW	NW	33	9S	17E	Twin Falls	

6. Place(s) of Use:

Indicate Method of Determination

Twp.	Rge.	Sec.	NE 1/4				NW 1/4				SW 1/4				SE 1/4				Totals
			NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	
9S	17E	28											H 14 2						2
		29															H 10		10
		32		24				2											26
		33					1	H 17	21	14	3								62
							Lt 1			Lt 2									

Do not use this space

Do not use this space

D. FLOW MEASUREMENTS

☐ Additional Data Sheets Attached

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Ervin Labd	in-line			12231	10.00"	
~~Mcrometer~~	~~"~~			~~274755~~		

2. Measurements:

Measured 2900 gpm average, 3000 gal/64.4 sec. on totalizer (6.23 cfs)
Flow varied 2710 gpm - 2950 gpm (6.04 - 6.57 cfs)

Allow 6.23 cfs + 0.02 cfs not measured = 6.25 cfs

Irrigation system not measured. Pumps rated for 450 gpm each at 120 psi = 2.0 cfs

E. FLOW CALCULATIONS

☐ Additional Computation Sheets Attached

1. Measured Method:

100 acres x .02 cfs/acre = 2.0 cfs allowable Heating - 160 gpm = 0.36 cfs

2. Alternate Method for Checking Purposes:

F. PUMP EFFICIENCY DATA (Optional)

Discharge Pressure: _____ psi x 2.31 = _____ ft (1); Dynamic pumping level: _____ ft (2)

Total Head: (1) + (2) = _____ (3)

: Flow rate: _____ cfs (4)

Water HP: (3) x (4) ÷ 8.8 = _____ (5)

Meter Input KW: 3.6 x _____ KH x _____ CTR or _____ MULT x _____ PTR x _____ N/ _____ T = _____ (6)

Meter Input HP: (6) x 1.34 = _____ (7)

Panel Input KW: _____ Ave PF x _____ Ave Volts x _____ Ave Amps x .001732 = _____ (6)

Panel Input HP: (6) x 1.34 = _____ (7) Efficiency: (5)/(7) x 100 = _____ %

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 100 \times 4 = 400.0 \text{ AFA}$

$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = 2 \times 245 \times 1.9835 = 971.9$

$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 400 \text{ AFA}$

2. Volume Calculations for Other Uses:

H. REMARKS AND OVERLAP REVIEW ANALYSIS

West Fish Facility consists of 11 circular troughs 20' diameter x 4' deep. Four concrete raceways 25' x 100' x 4' deep. ~~Eight~~ Six wood troughs ~~6' x 12'~~ 6' x 12' x 2' deep, Forty wood troughs 4' x 6' x 1' deep. Two settling ponds.

Raises catfish, Tilapia, & tropical fish.

East Fish Facility consists of hatchery building with sixteen 2' x 10' x 1' deep wood troughs. Also eighteen concrete raceways 4' x 16' x 4' deep.

Clubhouse has 2 Commercial Air blowers for heating system, water to large hot tub, dish washing, etc. Use is essentially non-consumptive, so no volume is shown.

Estimated heating use is 50 gpm in clubhouse, 100 gpm in shop, 10 gpm in residence. Irrigation system runs at night (12 hrs/day) all season long.

I. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
Fish Propagation	1-1	12-31	6.25 cfs	51495 cu.ft. pond volume
Irrigation	3-15	11-15	2.00 cfs	400.0
Heating	1-1	12-31	0.36 cfs	
Totals:			6.25	400.0

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 |

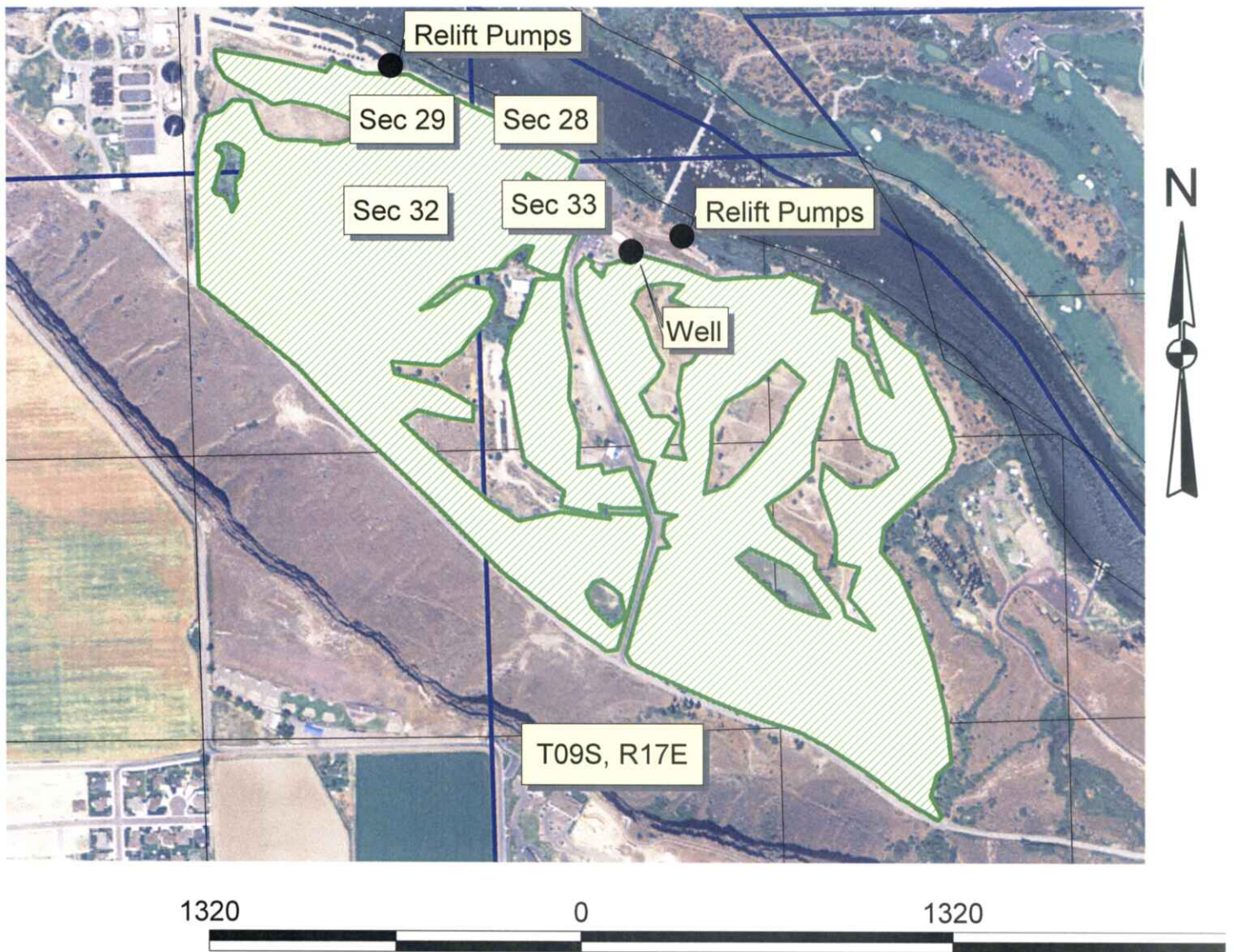
J. AUTHENTICATION

Field Examiner's Name J. E. Stanton
Signature J. E. Stanton
Certification Date _____
Field Report Preparation Date 5-3-91

CONSULTANT SEAL

- K. Licensing recommendation shall be prepared by an Idaho Department of Water Resources employee on a computer printout attached hereto.

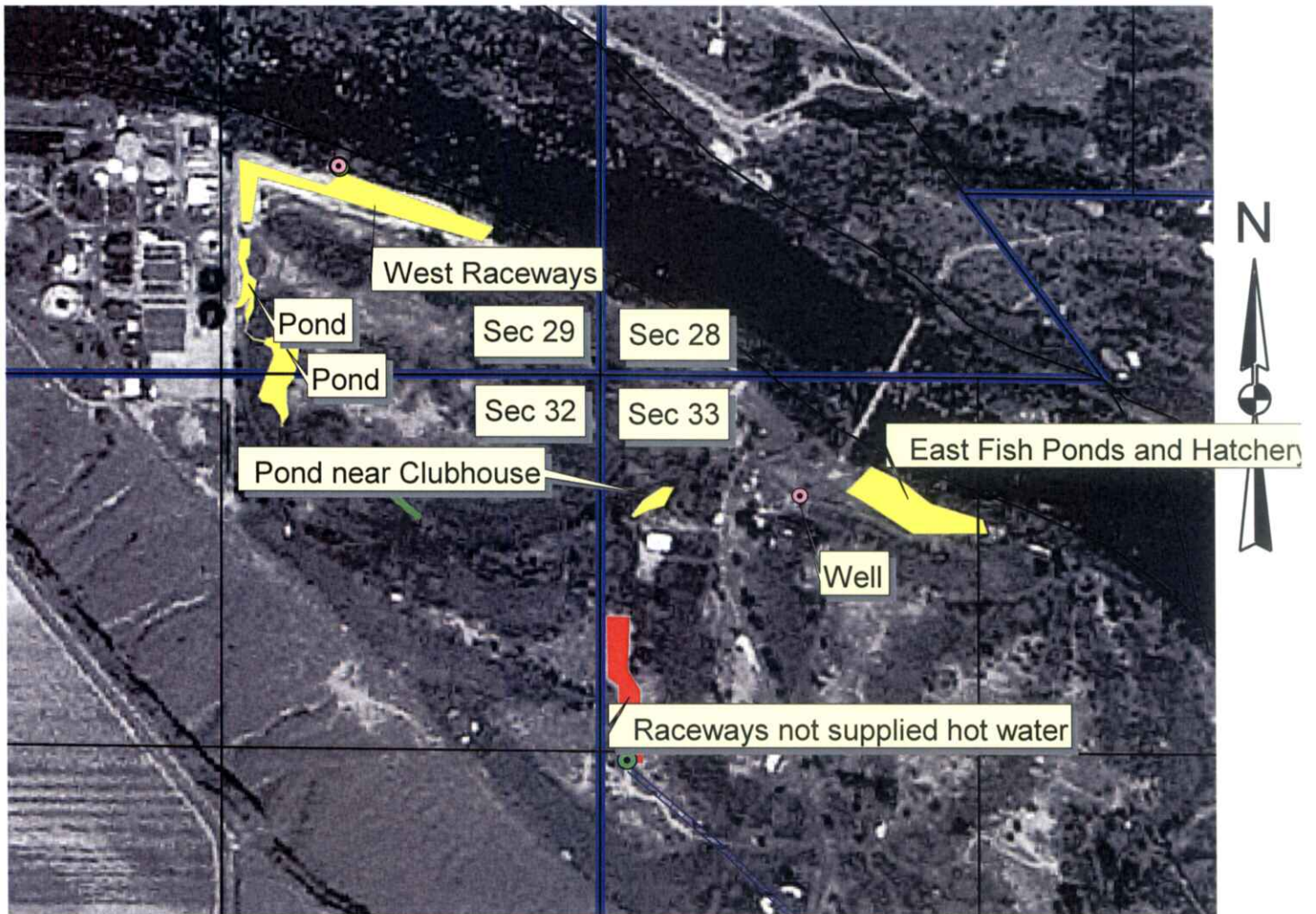
Field Exam 47-7758 Irrigation



ADM
5/19/05

T09S, R17E, B.M.

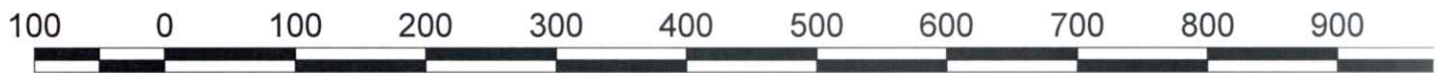
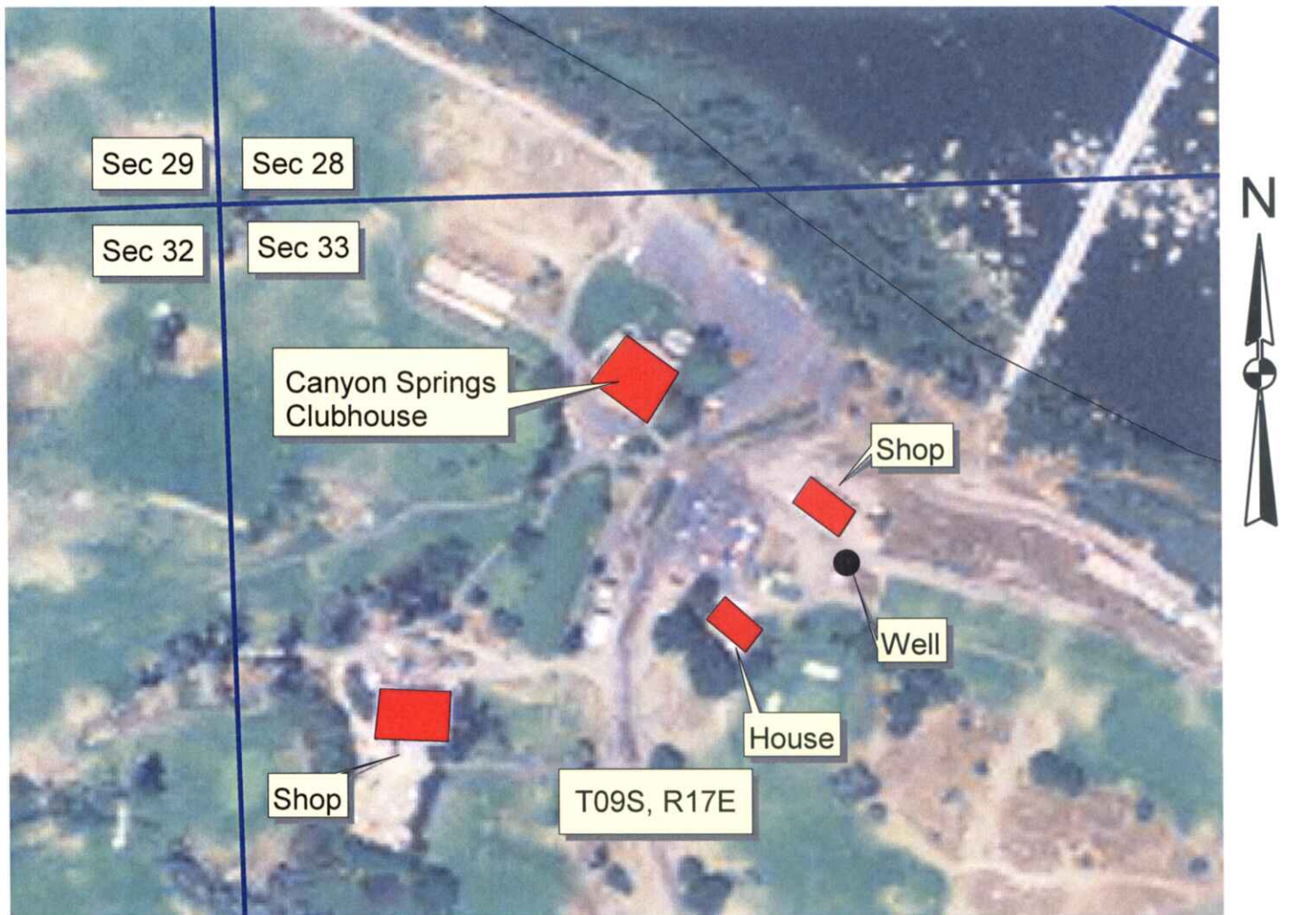
Field Exam 47-7758 Fish Propagation



ADM
5/19/05

T09S, R17E, B.M.

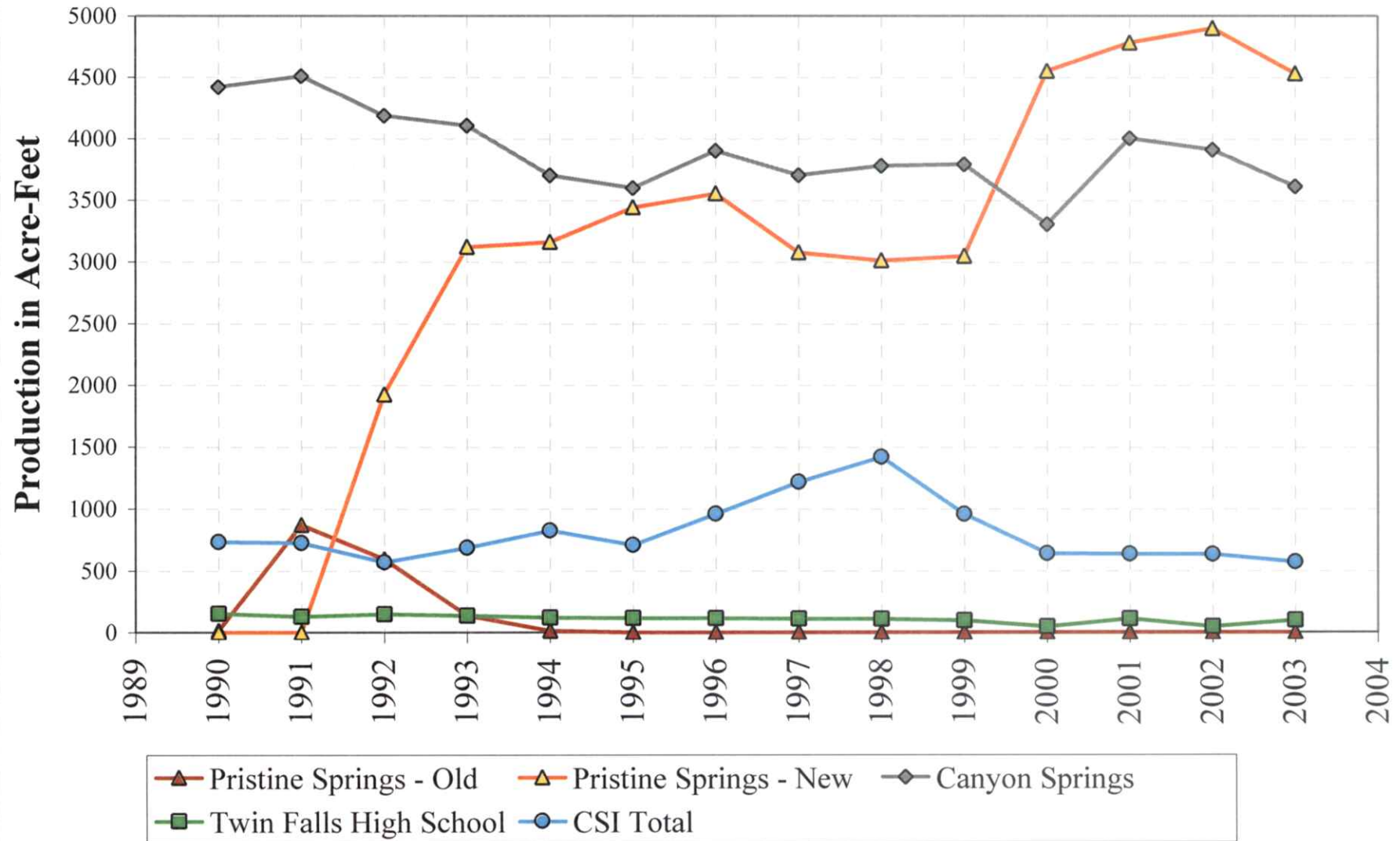
Field Exam 47-7758 Heating



ADM
5/19/05

T09S, R17E, B.M.

Cumulative Production for the Major Users in Twin Falls Area, 1990-2002.



STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources
within 30 days after the completion or abandonment of the well.

USE TYPEWRITER OR
BALLPOINT PEN

RECEIVED

JUN 18 1985

1. WELL OWNER

Name Canyon Springs Golf Course
Joe McMollum, Managing partner
Address Box 1128 Twin Falls, Idaho 83301
Owner's Permit No. 47-7758

7. WATER LEVEL

Department of Water Resources
Southern District Office

Static water level 52 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature _____ °F. Quality _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning) _____

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
no test		

3. PROPOSED USE

☐ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☒ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____
Thickness Diameter From To
.250 Inches 24 Inches + 1 feet 26 feet
.375 Inches 16 Inches 1 feet 128 feet
.375 Inches 12 Inches 1 feet 161 feet

Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches
Number From To
_____ perforations _____ feet _____ feet
_____ perforations _____ feet _____ feet
_____ perforations _____ feet _____ feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name _____

Type _____ Model No. _____
Diameter _____ Slot size _____ Set from _____ feet to _____ feet
Diameter _____ Slot size _____ Set from _____ feet to _____ feet

Gravel packed? ☐ Yes ☐ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 26 ft. Material used in seal: ☒ Cement grout
☐ Puddling clay ☐ Well cuttings

Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing
☒ Overbore to seal depth

Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent
Weld

☒ Cemented between strata
Describe access port _____

9. LITHOLOGIC LOG

Hole Diam.	Depth		Material	Water	
	From	To		Yes	No
36"	0	8	sand & dirt		
36"	8	26	gray lava boulders & sand		
20"	26	56	gray lava boulders & sand		
	56	79	gray rhyolite boulders & cinders		
	79	86	gray basalt (hard)		
16"	86	116	gray rhyolite & cinders (soft)	x	
	116	123	gray lava & some clay	x	
	123	140	blue clay & gray lava (some caving)		
	140	157	gray hard lava		
	157	167	gray & brown clay, gray rhyolite		
	167	203	gray rhyolite layers of clay		
	203	226	gray rhyolite & clay		
	226	261	gray basalt (hard)		

83 ft. 20"x34" casing set
down to 81 ft. & pulled
12" & 16" diameter casing
cemented in wall. well is
to be finished with Rotary

24 in. casing cemented
with #449 9 to ten yards
of cement

302498

MICROFILMED

RECEIVED RECEIVED

JUN 14 1985

JUN 21 1985

Department of Water Resources Department of Water Resources

10.

Work started Oct. 1, 1981 finished Dec. 22, 1981

11. DRILLERS CERTIFICATION

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

Firm Name R. O. Denton & Son Firm No. 83

Address Paul, Idaho Date Dec. 27, 1981

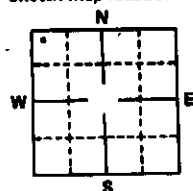
Signed by (Firm Official) Robert C. Denton

and

(Operator) Robert C. Denton

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____

Lot No. _____ Block No. _____

County TWIN FALLS

NW 1/4 NW 1/4 Sec. 33, T. 9S N/S, R. 17E W.

Pd for 47-7813 and 47-7758
Looking East

5/19/05
AOM

Generator house ↓

Well house ↓



47-7758



Measuring Device



Clubhouse Heating System

47-7758 Irrigation System

East Pumps

*West Pumps not shown



Pumps & Mainline



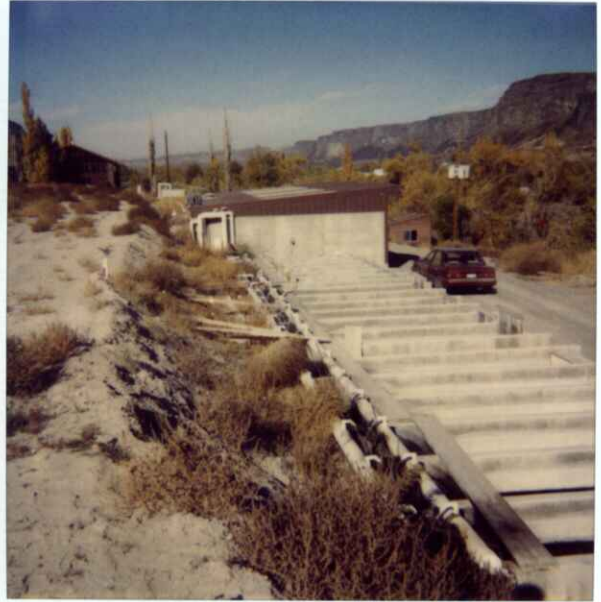
Pumps

Outlet From Pumps To Golf Course

47-7758 (East Ponds)



Hatchery Building

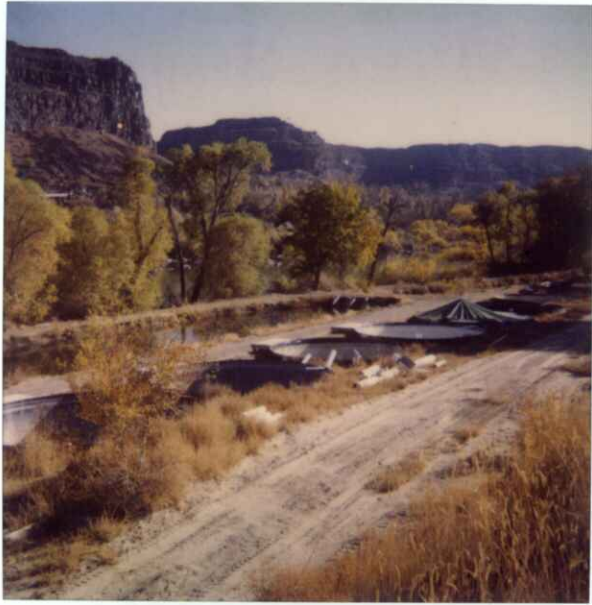


Fry Ponds



west Pond,

47-7758 (West Ends)



Experimental Area

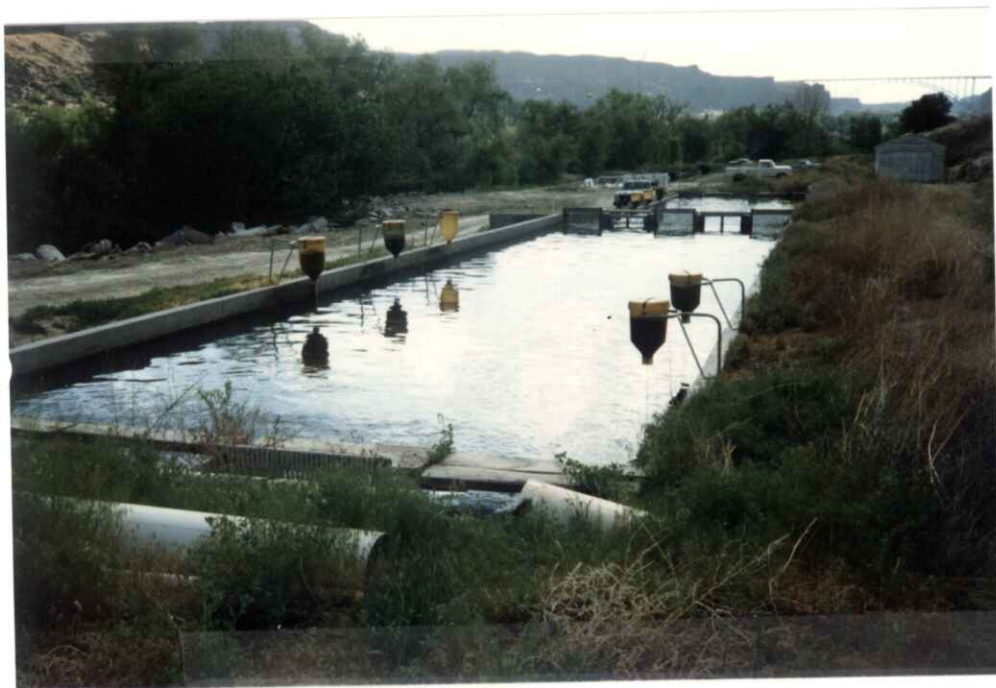


Raceways

Tropical-Fish Area

47-7758 Golf Course





west ponds



west
pond,



Fish Pond
near club house



west Pond,



west ponds



Hatchery
Building



East
ponds