

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

RECEIVED

MAY 24 2004

DEPARTMENT OF
WATER RESOURCES

A. GENERAL INFORMATION

Permit No. 77-7346

1. Owner: Scott & M.C. Keithley Phone No. 208-325-8826

Current Address: PO Box 14 LAKE Fork ID. 83635-0014

2. Accompanied by: N/A - SEE * EXAM DATE: ~~7/8/99~~ 9/9/97

Address: _____ Phone No. _____

Relationship to Permit Holder: _____

3. Source: South Fork Salmon River tributary to Salmon River

B. OVERLAP REVIEW *

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

2. Other water rights with the same point of diversion: _____

C. DIVERSION AND DELIVERY SYSTEM

1. Point(s) of Diversion: *

*7 1/2' topu + subd.
plot*

Ident No.	Gov't Lot	1/4	1/4	1/4	Sec.	Twp.	Rge.	County	Method of Determination/Remarks
	2		NE	NE	2	21N	7E	Valley	

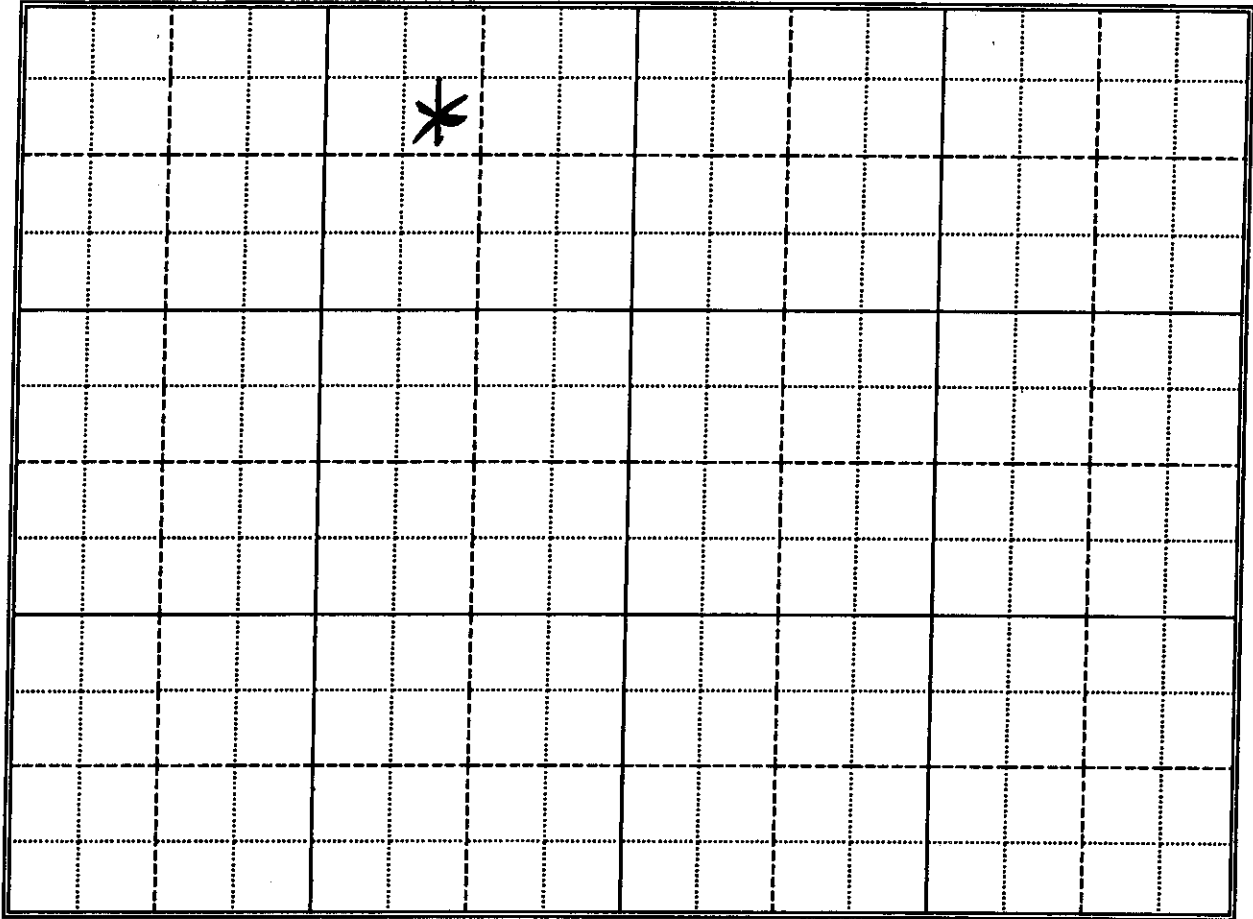
2. Place(s) of Use: *

Indicate Method of Determination

TWP	RGE	SEC	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
21N	7E	2	D	D															
			1.2	1.2															

* = SEE Exam info in 77-7339, common to SEVERAL Exams

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe i.d. as applicable.



Scale: 1" = _____



Copy of USGS Quadrangle Attached Showing location(s) of point(s) of diversion and place(s) of use (required).



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



Photo of Diversion and System Attached

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
*					

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

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
N/A						

2. Measurements: IF RIVER pld - could not measure during exam.

IF UNNAMED stream pld - " " " " but see
pipe flow spreadsheet for estimated Q.

E. NARRATIVE/REMARKS/COMMENTS



Have conditions of permit approval been met? ☒ yes ☐ no

F. FLOW CALCULATIONS

Additional Computation Sheets Attached *

Measured Method:

if River - not measured, allow .02 int.
.04 int. + ext.

if well - " " , Q est. .04, allow Q as in River cases.
7260m

↳ but condition rights with this
 div., cannot exceed .04 cfs
 when combined.

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: N/A

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \underline{\hspace{2cm}}$$

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

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \underline{\hspace{2cm}}$$

2. Volume Calculations for Other Uses:

if intermed - allow .6 Afa

if int/ext. - allow 1.2 Afa

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
<u>Domestic</u>	From <u>1/1</u>	To <u>12/31</u>	<u>.02</u>	<u>.6</u>
Totals:			<u>.02</u>	<u>.6</u>

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

St. Lester

Date

5/20/04

Reviewer

Date

SEAL

MAY 24 2004

DEPARTMENT OF
WATER RESOURCES**MEMORANDUM**

- MEMO
- MAPS
- pipeflow calc. spreadsheet
- photographs

TO: Files

FROM: Steve Lester *SL*

DATE: May 19, 2004

RE: **Field Exam Information for Permits 77-7339, 77-7346, 77-7357, 77-7363, 77-7364, 77-7367, 77-7368 and 77-7379 in Trails End Subdivision**

This information is common to field exams conducted for the above referenced permits. Trails End Subdivision is generally north of McCall between Warren and Big Creek next to the South Fork Salmon River. Most of the cabins are used recreationally although a few people spend most or all of the year there.

A "master copy" exam report was prepared, leaving variable information blank and to be filled in for each permit as needed. The exams were conducted on 9/8/99 except as noted in this memo. In all cases, proper contact with the people listed on proofs of beneficial use occurred. Owners provided adequate information for unaccompanied exams. An exception was Chatwood, who was present during the field visit.

All tracts are T21N, R7E, Sec. 2, Gov. Lot 2, which includes NENE & NWNE. Conditions of approval in all the permits have been met. None of the P/Ds are within subdivision lots. See the subdivision plat for a layout of the systems.

OVERLAP

77-7339 & 77-7379 use the same river pump but for different homes.

77-7357 and 77-7379 are different sources for the same home.

77-7367 & 77-7368 are different sources for the same home.

77-7357, 77-7363, 77-7364 & 77-7367 use the same unnamed stream diversion but for different homes. This system, developed after a large flood washed through the subdivision, consists of a screened portable collection barrel temporarily stored at Cross's cabin in Lot 13 and about 150 ft. of 1.5" pipe observed at the P/D. Diverted water is piped into the buried community pipeline system developed from Pony Creek (License 77-7241 that I examined in 1991). The buried Pony Creek system follows the subdivision

road network. In this manner, the unnamed stream “piggy-backs” on the community pipeline. Pony Creek water covers 7 homes in the subdivision, including the homes covered by 77-7339 and 77-7364. The unnamed stream augments Pony Creek water as needed. The unnamed stream system can divert about 0.04 cfs according to the pipe computation spreadsheet (assume about 20’ of head and 1” internal pipe diameter). That rate can supply more than enough volume to satisfy 4 cabins at full use (0.04 yields 29 afa vs. maximum of 4.8 afa for internal and external uses at 4 cabins).

P/D overlap conditions – use standard language about multiple rights (list rights) also diverted through same P/D. Applies to:

- 7339 & 7379 river pump; abbreviated as: + wr#
- 7357, 7363, 7364 & 7367 unnamed stream; all four rights limited to 0.04 cfs when combined per system capacity; both conditions abbreviated as: + 3 other unnamed stream rights limited to 0.04 cfs combined.

P/U overlap conditions - avoid overly cumbersome language by using something like this to cover overlapping P/U:

- Domestic use under this right and any other rights serving the same home is limited to 0.04 cfs and 1.2 afa; abbreviated as: P/U overlap.

Domestic use in each permit covers year around use for a single home. Some of the permits include fire protection as a beneficial use.

INDIVIDUAL PERMITS

Also see summary table at end of this memo.

77-7339, Cross, river

Portable river pump, Honda #0812496, no hp tag, 1” pipe to 2 storage tanks on rise behind cabin. Commingled with other sources (unnamed stream & Pony Creek), gravity flow from tank back down to home and yard in Block 2, Lot 13.
See photos 1a-3. #3 shows 2 storage tanks for commingled water. One tank for Cross and other for Hartung (who has other rights in this report).
Same pump for 77-7379 (different home).
Same home also served by unnamed stream & Pony Creek.
P/D & P/U in NENE.
P/D (+ 77-7379) & P/U overlap conditions.
Allow 0.04 cfs and 1.2 afa.

77-7346, Keithley, river

Exam conducted 9/9/97 with permission of owner.

Portable river pump & pipe, ½ hp & two 35 gallon tanks by house, includes 2 fire hoses.
Pump shed destroyed by flood & fire but saw evidence of shed & pipeline at the scene.
No pump etc. tag found.
Rebuilding system, meanwhile had exempted domestic well drilled.
Enough evidence found to license river water for internal domestic use at Block 2, Lot 22.
See photos 4-6.
P/D NENE, P/U NENE & NWNE (cabin appears to be in both tracts).
No overlap conditions.
Allow 0.02 cfs and 0.6 afa.

77-7357, Hartung, unnamed stream

See explanation in overlap section of memo about multiple rights using this diversion.
Source combines with river water at storage tank (photo 3) to serve Hartung cabin at Block 2, Lot 16 for internal & external use.
See photos 7-8.
P/D in NWNE & P/U in NENE.
P/D (+ 3 other unnamed stream rights limited to 0.04 cfs combined) & P/U overlap conditions.
Allow 0.04 cfs and 1.2 afa.

Originally was for river but amended 1998.
Note new address per 4/12/04 letter from owner. Data entry completed on that.

77-7363, Cross, unnamed stream

See explanation in overlap section of memo about multiple rights using this diversion.
Source combines with river & Pony Creek water at storage tank (photo 3) to serve Cross cabin at Block 2, Lot 13 (not Lot 21 on permit) for internal & external use.
See photos 2, 3 & 7.
P/D in NWNE & P/U in NENE.
P/D (+ 3 other unnamed stream rights limited to 0.04 cfs combined) & P/U overlap conditions.
Allow 0.04 cfs and 1.2 afa.

77-7364, Kelly, unnamed stream

See explanation in overlap section of memo about multiple rights using this diversion.
Source combines with Pony Creek water for internal use, Kelly home at Block 3, Lot 43.
See photos 7 & 9.
P/D & P/U NWNE.
P/D (+ 3 other unnamed stream rights limited to 0.04 cfs combined) & P/U overlap conditions.
Allow 0.02 cfs and 0.6 afa.

77-7367, Chatwood, unnamed stream

See explanation in overlap section of memo about multiple rights using this diversion.
Source combines with river water for internal use at Chatwood home at Block 2, Lot 12.
See photos 7, 10 & 11.
P/D in NWNE & P/U in NENE & NWNE (mostly NENE but some in NWNE).
P/D (+ 3 other unnamed stream rights limited to 0.04 cfs combined) & P/U overlap conditions.
Allow 0.02 cfs and 0.6 afa.

77-7368, Chatwood, river

Portable Shindaiwa pump model S45P, serial #3014384 with 1" pipe to cabin. No tag found but appears to be 1-2 hp, owner agreed with this during exam.
Internal use only.
See photos 10 & 11.
P/D in NENE & P/U in NENE & NWNE (mostly NENE but some in NWNE).
P/U overlap conditions.
Allow 0.02 cfs and 0.6 afa.

77-7379, Hartung, river

Development confirmed at exam & proof filed later. This is acceptable.
Same pump as 77-7339. Pumped to storage tank (recall Cross has other tank next to Hartung's), commingled with other sources, then gravity flow back to cabin.
Same home as 77-7357.
Limited to internal use under permit (probably Wilderness Moratorium issue).
See photos 1a, 1b, 3 & 8.
P/D & P/U in NENE.
P/D (+ 77-7339) & P/U overlap conditions.
Allow 0.02 cfs and 0.6 afa.

Note new address updated in database as in 77-7357.

SUMMARY TABLE OF PERMITS

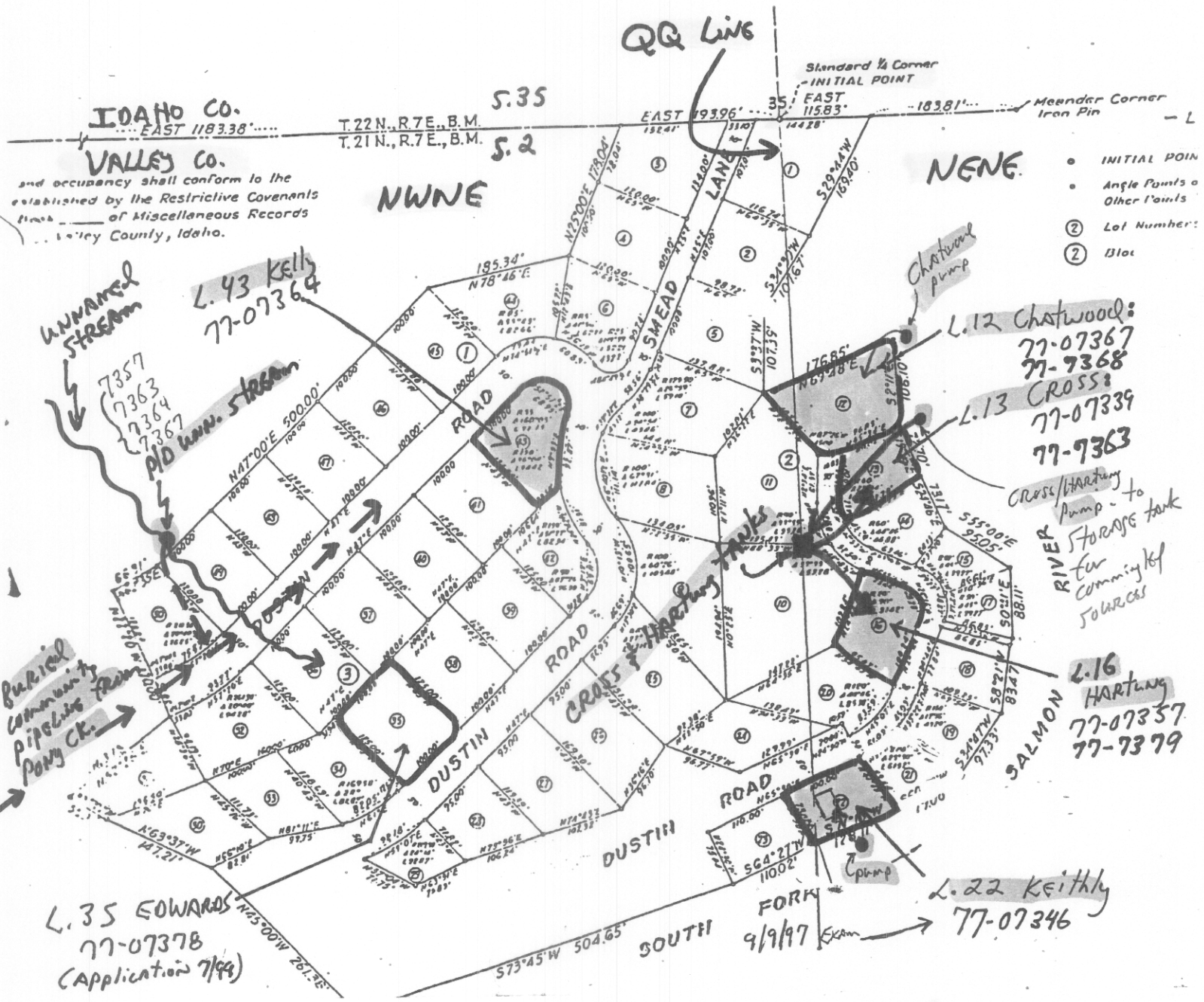
NUMBER	SOURCE	USE	LOT #	NOTES
77-7339	RIVER	INT/EXT	13	same p/d 77-7379 same home 77-7363 also Pony Ck. Water
77-7346	RIVER	INTERNAL	22	exam done 9/9/97
77-7357	UNN. STREAM	INT/EXT	16	same p/d others unn. stream same home 77-7379
77-7363	UNN. STREAM	INT/EXT	13	same p/d others unn. stream same home 77-7339 also Pony Ck. water
77-7364	UNN. STREAM	INTERNAL	43 *	same p/d others unn. stream also Pony Ck. water
77-7367	UNN. STREAM	INTERNAL	12	same p/d others unn. stream same home 77-7368
77-7368	RIVER	INTERNAL	12	same home 77-7367
77-7379	RIVER	INTERNAL	16	same p/d 77-7339 same home 77-7357

* All subd. lots are in Block 2 except 77-7364 in Block 3.

TRAILS END SUBDIVISION

A PART OF THE N² SECTION 1, T.21N., R.7E., B.M.
VALLEY COUNTY, IDAHO.

BILL HARRIS CONSULTING ENGINEER



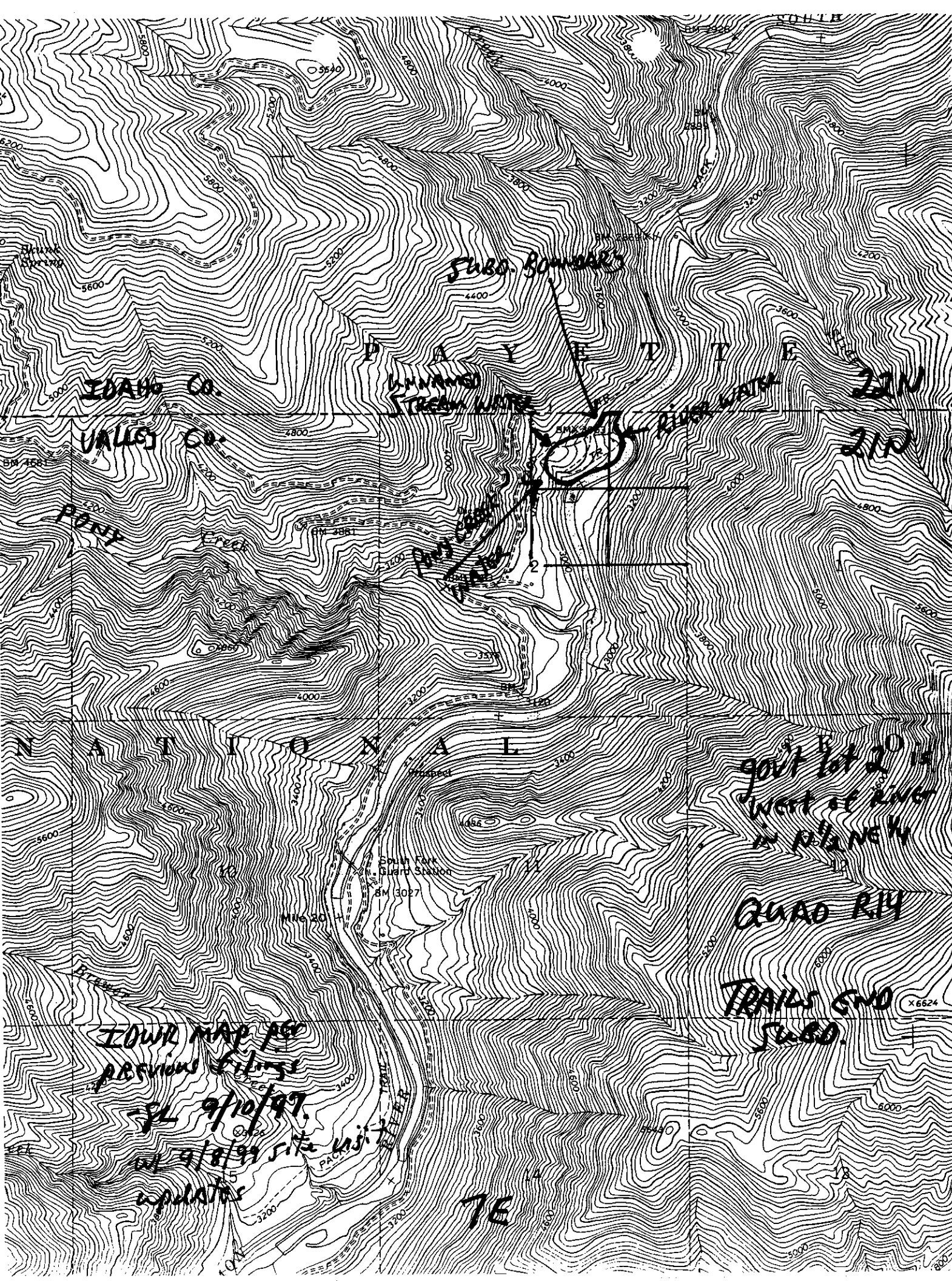
• RIVER pld
1" ≈ 185'

EXAMS 9/8/99 unless noted.
3 RIVER pumps.
1 unnamed stream diversion.

1991 Exam confirmed
Pony Creek system 77-7241.

LAWNS &
CROSS Lot 13
Hartung Lot 16

TRAILS END SUBD.
Exam
- 5/18/04



Pipeflow Computation Spreadsheet (DRT 12/31/1992)

Data Entered By: SL 5/19/04

Project: Flow Computation for Trails End Subd

Given: See Data Table

Compute head losses with the Williams and Hazen Formula:
 $f = 0.2083 * (100 / \text{roughness})^{1.85} * (cfs * 448.8)^{1.852} / ID^{4.8655} * \text{Length} / 100$

To Find: Compute the Rate of Flow

Data Table

Total Head: 20.00 feet

Pressure Req'd: 0.00 psi

Available Head: 20.00 feet

Pipe Roughness: 150.00 Note:

pvc = 150, smooth and straight pipe = 140
 aluminum - joint length 20' = 125, joint length
 30' = 130, joint length 40' = 132, joint length
 50' = 134, new riveted steel = 100
 old riveted steel = 100, old cast iron = 95,
 old pipes in poor condition = 60 to 80

Inside
Diameter
in Inches

Equivalent
Length
in Feet

Unit
Head
Loss

Total
Head
Loss from Pipe Friction

1.00	225.00	46.53
1.00	0.00	0.00
1.00	0.00	0.00

Head
Loss
per 100 ft

20.68

46.53

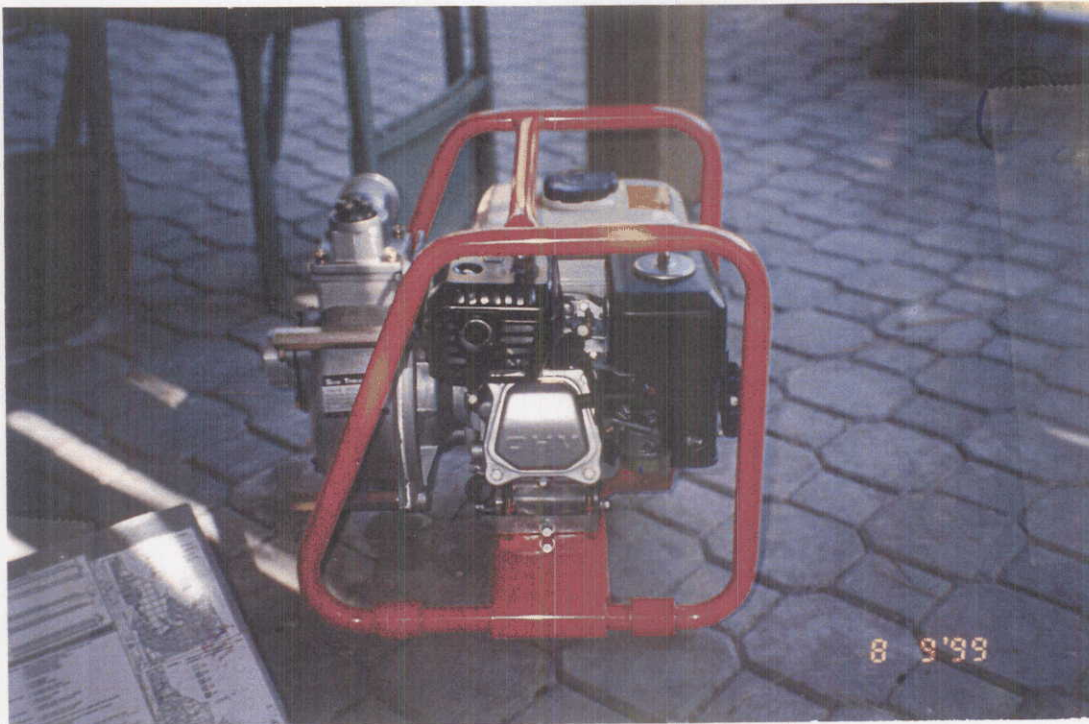
Rate of Flow:

0.040 CFS

Directions:

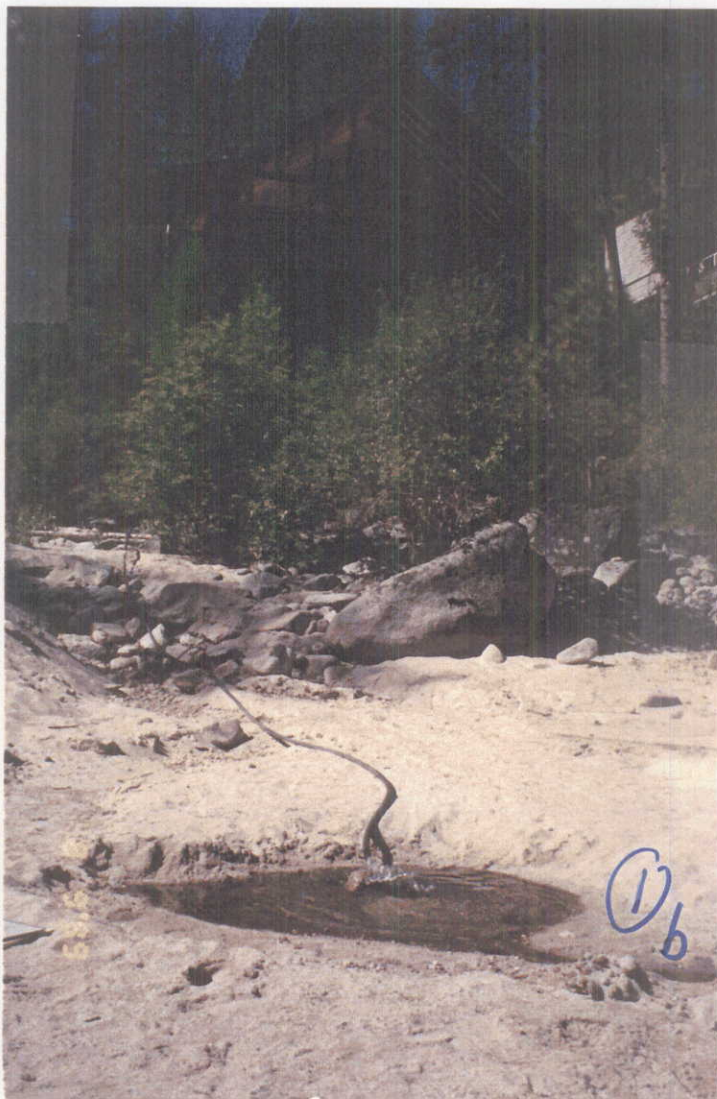
Match head loss per 100 ft with available head. Change cfs rate until they match fairly close.

✓ closest match = .04 cfs



(1a)

Cross/Hartung
portable pump
stored at Cross'
cabin for season.



(1b)

Point at River where
above pump is placed
for use.

Cross cabin in middle
background.

~~The~~ natural cabin (uses
separate pump) partly seen
in right background.



(2)

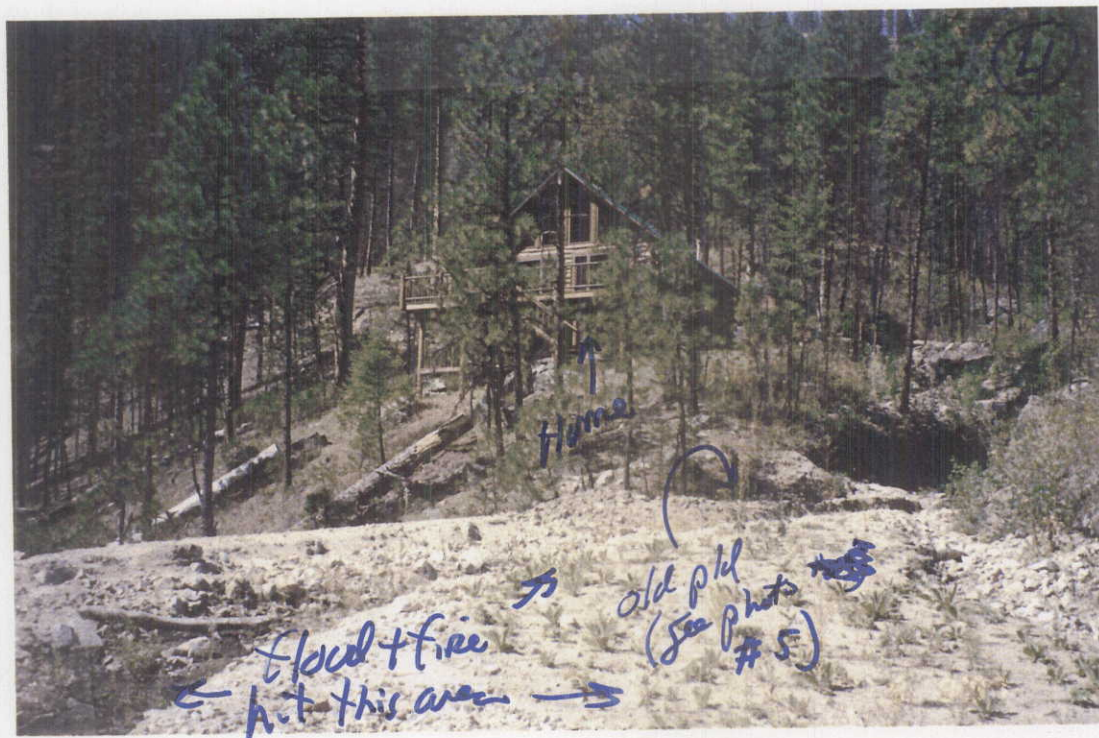
Cross cabin
& yard.



(3)

Storage tanks for
Cross + Hartung -
for compressed water.
gravity flow from
here back down to
cabins.

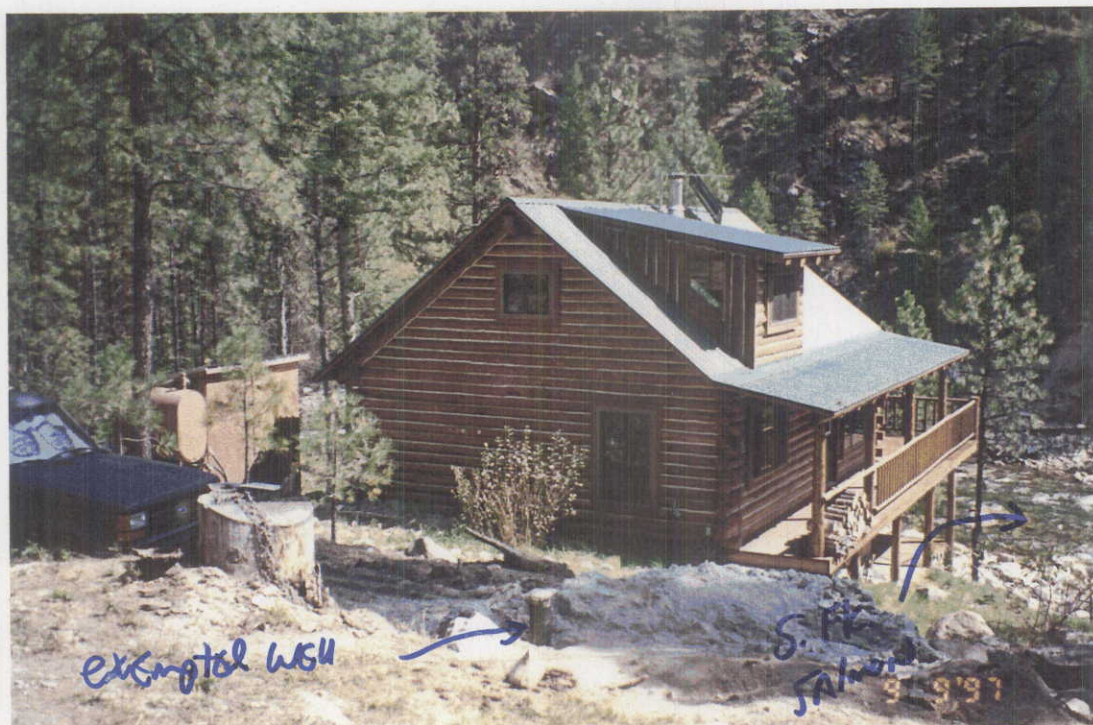
NOTE → photos 4-6 = 9/9/97



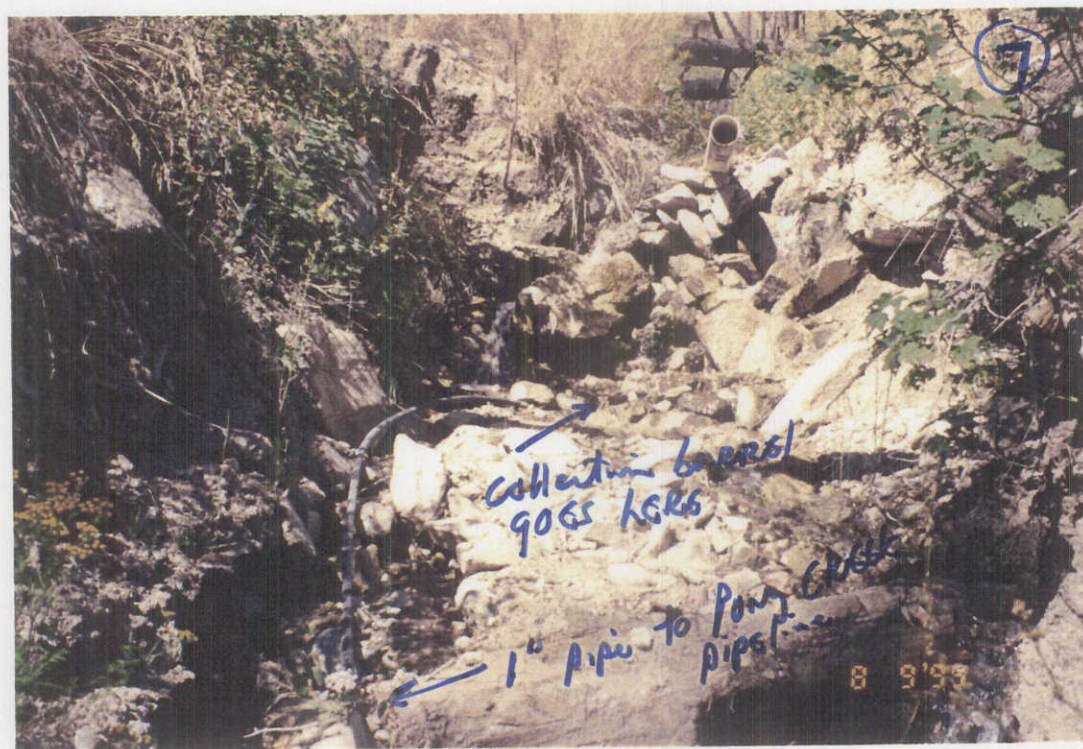
④ Looking up
at Keithley
cabin from
residue of flood
that washed out
diversion point.



⑤ Remnants of Keithley's
pump house after flood & fire.



⑥ Keithley
Cob. W. River
in background.



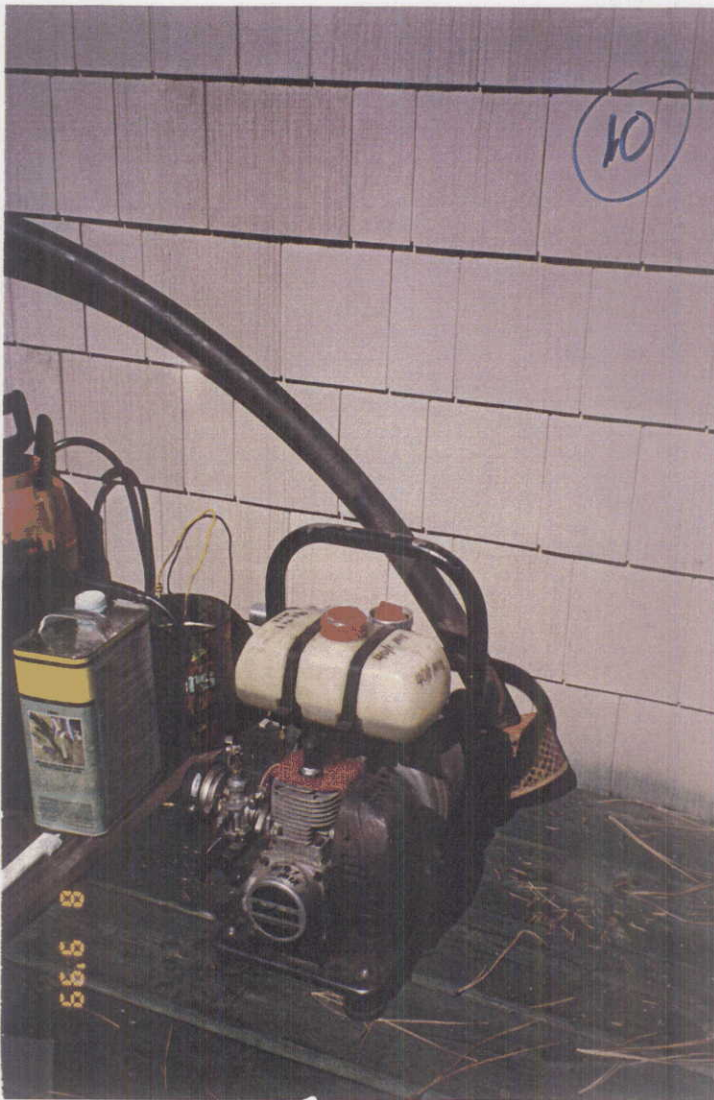
⑦ Point of
diversion at
unnatural stream
This is about
150' west of
west border of
Tribulation.



(8)
HARTUNG cabin
in yard.



(9)
KELLY cabin.



(10) Chatwood portable pump
stored at Chatwood cabin
for season.



(11)
Chatwood cabin
on right.
Cross cabin on
left.