

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

RECEIVED
NOV 20 1996

Department of Water Resources

A. GENERAL INFORMATION

Permit No. 72-07360

1. Owner: Glendon H. Hunt Phone No. (208) 879-2592

Current Address: HC 61 Box 3021, Challis, Idaho 83226

2. Accompanied by: Glendon H. Hunt EXAM DATE : 8-16-96

Address: see above Phone No. see above

Relationship to Permit Holder: OWNER

3. Source: WARM SPRING tributary to SALMON RIVER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: There are 30 shares of Challis Irrigation Company's water.

2. Other water rights with the same point of diversion: NONE

C. DIVERSION AND DELIVERY SYSTEM

1. Point(s) of Diversion:

Ident No.	Govt Lot	¼	¼	¼	Sec.	Twp.	Rge	County	Method of Determination/Remarks
P/D Warm Spring		N E	S E	S E	11	13N	19E	CUSTER	Visual inspection with the use of USGS Quadrangle map and Aerial photo.

2. Place(s) of Use:

Indicate Method of Determination planimeter used on Aerial Photo.

TWP	RGE	SEC	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
13N	19E	11																35	35 AC
13N	19E	12											.5						.5 AC
13N	19E	13						1											1 AC
13N	19E	14	2																2 AC

TOTAL = 38.5 acres

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

SEE ATTACHED SHEET

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

YES Aerial Photo attached (required for irrigation of 10+ acres).

YES 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
MAIN PUMP PLANT	MARATHON ELECTRIC	15 Hp	1174778	CORNELL	23265

*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
PSI PRESSURE GAGE						

2. **Measurements:** MEASUREMENTS WERE MADE BY GARY FUNDERBURG SEE ATTACHED SHEET FOR READINGS.
THE SYSTEM WAS NOT AT CAPACITY WHILE I WAS THERE, SO NEW READINGS COULD NOT BE USED

E. NARRATIVE/REMARKS/COMMENTS

The water for this permit is drawn out of Warm Spring Creek. The P/D for this permit is located in the NE 1/4 - SE 1/4 SE 1/4 of section 11, township 13N - range 19E. The water is drawn out of this P/D through a wooden sump box located on the bank of the creek. The water can be regulated by boards in the stream side of the wooden sump box. In the sump box for Warm Spring Creek there is a 10 inch plastic pipe that travels southwest to the main pump station located at the Challis Irrigation Company's (CIC) canal. The pipe enters the CIC sump box and is commingled with water from the CIC canal. This water is then pumped through a 15 Hp pump into a mainline system that feeds four sets of handlines with a total of 58 sprinkler heads.

This water is only used when it is available due to upstream user's prior rights. Therefore, this right is only used as a supplementary water source. The main source of water for this place of use comes from the CIC canal.

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

F. FLOW CALCULATIONS

_____ Additional Computation Sheets Attached

Measured Method:

.62 cfs (see attached sheet)

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 38.5 \times 3.5 = 134.75 \text{ afa}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = .62 \times 184 \times 1.9835 = 226.28 \text{ afa}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 134.75 \text{ afa}$$

B

2. Volume Calculations for Other Uses:

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
<u>IRRIGATION</u>	<u>APRIL 15</u>	<u>OCT. 15</u>	<u>.62 cfs</u>	<u>134.75 afa</u>

Totals: .62 cfs 134.75 afa

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 Daniel A. Nelson Date 11-17-96

Reviewer _____ Date _____

SEAL

RECOMMENDATIONS:

I recommend that this right be licensed under the following conditions:

1. That this right be licensed for .62 cfs diversion rate with a annual volume of 134.75 afa and when combined with Challis Irrigation Company or any other rights does not exceed a maximum use of .02 cfs per acre.
2. That this right be licensed for supplemental use only. This will allow Mr. Hunt to use this water to irrigate lands before the Challis Irrigation Company turns their water into the canal for water sensitive crops or to irrigate pastures.
3. That this right does not allow Mr. Hunt to use this right if all of the water in the stream has been used by other users with a earlier priority date. This stream does not flow year round at the P/D due to the use of prior water rights that divert all the water from the stream.

FLOW CALCULATIONS

PERMIT #: 72-07360

PUMP

MEASUREMENTS WHERE MADE BY GARY FUNDERBURG:

FLows IN GALLONS PER MINUTE (GPM)

58 - 11/64 SPRINKLER HEADS AT AVERAGE PSI OF 30 PSI

30 PSI FOR 11/64 NOZZLE = 4.83 GPM (SEE EXHIBIT 9 FIELD EXAMINER'S HANDBOOK)

$4.83 \times 58 = 280.14 \text{ GPM}$

$280.14 \text{ GPM} / 448.8 = .62 \text{ CFS}$

GROUNDWATER MEASUREMENT REQUIREMENT ANALYSIS

FILE: 72-7360
DATE: 8-16-1996
BY: Daniel A. Nelson

THEORETICAL RATE OF FLOW: $Q = \frac{(8.8) \times (H.P.) \times (EFF.)}{TDH}$

Q = CFS
H.P. = Total Brake Horsepower of pumping plant (including booster)
EFF. = Pumping plant efficiency (ASSUME 70% OR 0.70)
TDH = total dynamic head = [(LIFT) + (PSI X 2.31)]
LIFT = depth to water in FEET from land surface to pumping water level
PSI = pumping pressure measured in psi near pump (if open discharge assume zero [0])

$$Q = \frac{(8.8) (1.5 HP) (0.70)}{[(3 FT LIFT) + (80 PSI \times 2.31)]} = \frac{92.4}{187.8} = .49 CFS$$

219.91

LIFT FROM:	PSI FROM:	NOTES ON PUMP:
measurement ()	measurement ()	Motor Make, Serial or ID
owner ()	owner ()	
area estimate ()	estimate ()	Pump Make, Serial or ID, rating
well logs ()	owner gage ()	
Booster (Y) (N)		
REMARKS		

ANNUAL VOLUME ANALYSIS

POTENTIAL Acre Feet/Acre/Annum = $\frac{(\text{DAYS IN SEASON}) \times (1.98) \times (Q)}{(\text{RECOMMENDED ACRES IRRIGATED})}$

(season)	(days)	
3/15 - 11/15	246	POTENTIAL = $\frac{(\dots) \times (1.98) \times (\dots)}{(\dots)}$
4/1 - 11/1	215	
4/15 - 10/15	184	
3/1 - 12/1	276	

POTENTIAL = _____

REQUIRED Acre Feet/Acre/Annum = _____
(AF/Ann/Ac irrigation requirement from chart for area)
NOTE that this is NOT Consumptive use

IF POTENTIAL IS GREATER THAN REQUIRED THEN NO MEASUREMENT NECESSARY ()
IF POTENTIAL IS LESS THAN REQUIRED THEN MEASUREMENT IS NECESSARY ()

SPRINKLER SYSTEM DISCHARGE

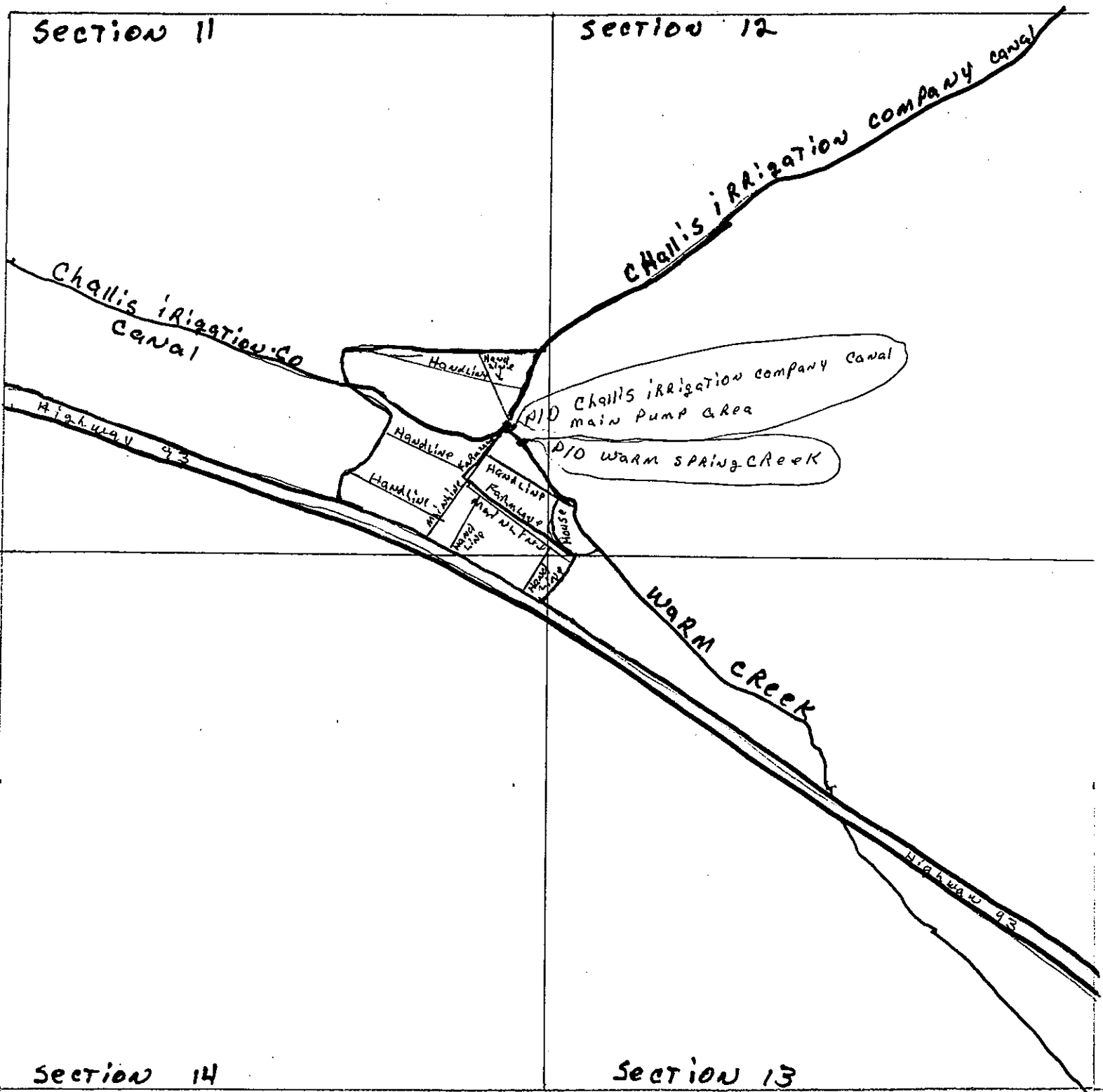
NOZZLE DISCHARGE - GALLONS PER MINUTE							
psi	3/32	1/8	9/64	5/32	11/64	3/16	13/64
20	1.17	2.09	2.65	3.26	3.92	4.69	5.51
25	1.31	2.34	2.96	3.64	4.38	5.25	6.16
30	1.44	2.56	3.26	4.01	4.83	5.75	6.80
35	1.55	2.77	3.50	4.31	5.18	6.21	7.30
40	1.66	2.96	3.74	4.61	5.54	6.64	7.80
45	1.76	3.13	3.99	4.91	5.91	7.03	8.30
50	1.85	3.30	4.18	5.15	6.19	7.41	8.71
55	1.94	3.46	4.37	5.39	6.48	7.77	9.12
60	2.03	3.62	4.50	5.65	6.80	8.12	9.56
65	2.11	3.77	4.76	5.87	7.06	8.45	9.92
70	2.19	3.91	4.96	6.10	7.34	8.78	10.32
75	2.27	4.05	5.12	6.30	7.58	9.08	10.66
80	2.35	4.18	5.29	6.52	7.84	9.39	11.02
85	2.42	4.31	5.45	6.71	8.07	9.67	11.35
90	2.49	4.43	5.61	6.91	8.31	9.95	11.69
95	2.56	4.56	5.76	7.09	8.53	10.20	11.99
100	2.63	4.67	5.91	7.29	8.76	10.50	12.32

AVERAGE APPLICATION RATE - INCHES PER HOUR

Spacing in Feet	Discharge From Each Sprinkler						
	2 gpm	3 gpm	4 gpm	5 gpm	6 gpm	7 gpm	8 gpm
20x20	0.48	0.72	0.96	1.20	1.44	1.70	1.95
20x30	0.32	0.48	0.64	0.80	0.96	1.12	1.28
20x40	0.24	0.36	0.48	0.60	0.72	0.84	0.96
30x30	0.21	0.32	0.43	0.54	0.64	0.75	0.88
30x40	0.16	0.24	0.32	0.40	0.48	0.56	0.64
30x50	0.13	0.19	0.25	0.32	0.38	0.45	0.51
40x40	0.12	0.18	0.24	0.30	0.36	0.42	0.48
40x50	0.1	0.14	0.19	0.24	0.29	0.34	0.38
40x60		0.12	0.12	0.20	0.24	0.28	0.32

Section 11

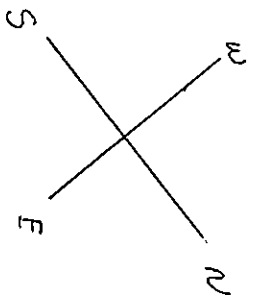
Section 12



Section 14

Section 13

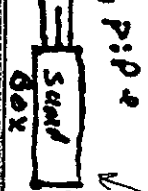
DIVERSION WORKS SEE ATTACHMENT



Please note: warm spring creek runs underneath the canal

WARM SPRING CREEK

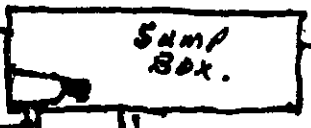
WARM SPRING PID



under ground pipe



under ground pipe



Challis Irrigation Company PID

Challis Irrigation Company

Canal

Mainline

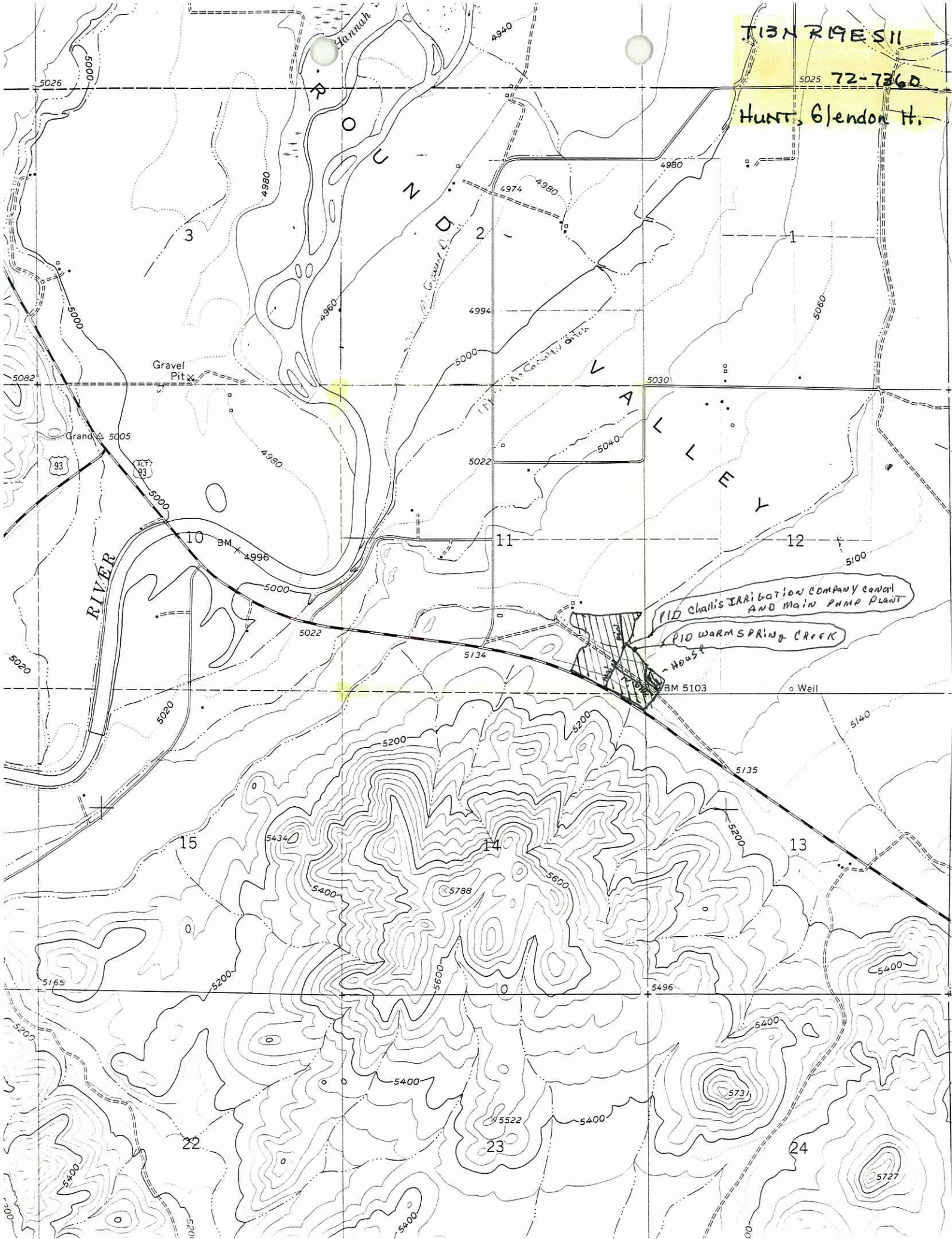
Farm Lane

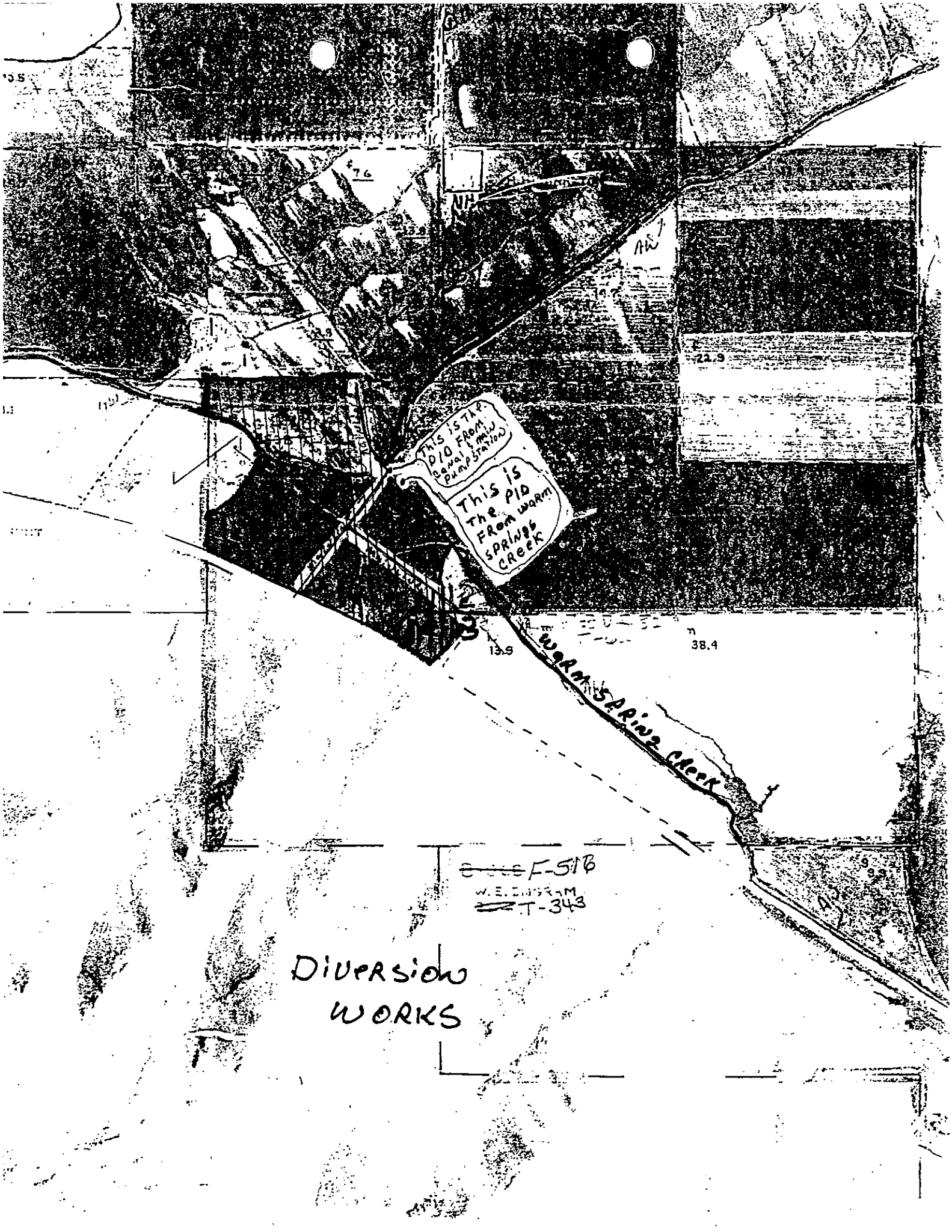
The water for this permit is drawn from a wooden sump box located on the bank of warm spring creek. The water is diverted out of the sump box through plastic pipe (8") traveling south west the sump box sitting on the Challis Irrigation company's canal bank. This sump regulates the water coming in from the canal and acts as a holding area for the pump. The pump lifts the water from the sump box and diverts it into the mainlines.

TIBN RIES II

5025 72-7360

HUNT, Glendon H.



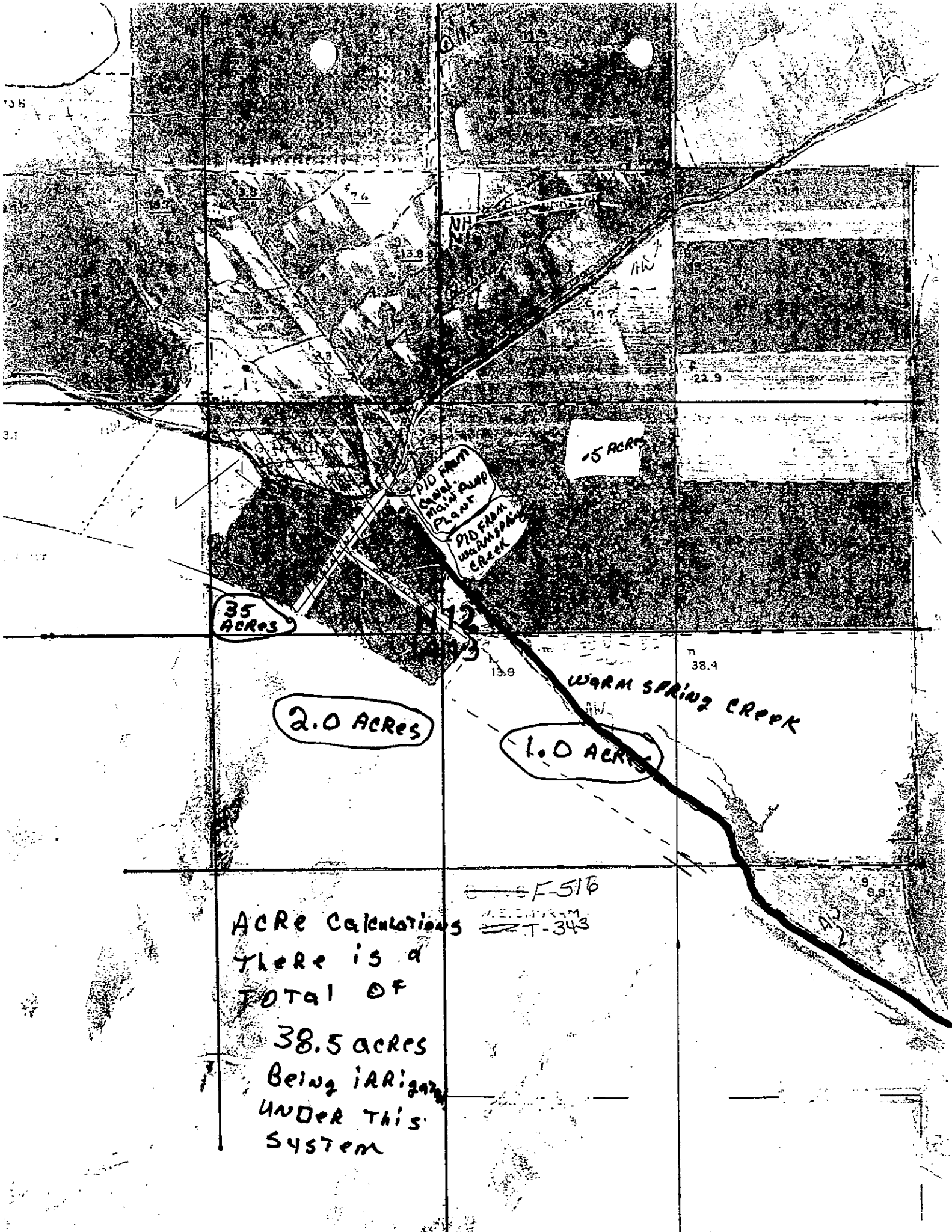


THIS IS THE
PID FROM
BAMAL PUMP STATION

THIS IS
THE PID
FROM WARM
SPRING
CREEK

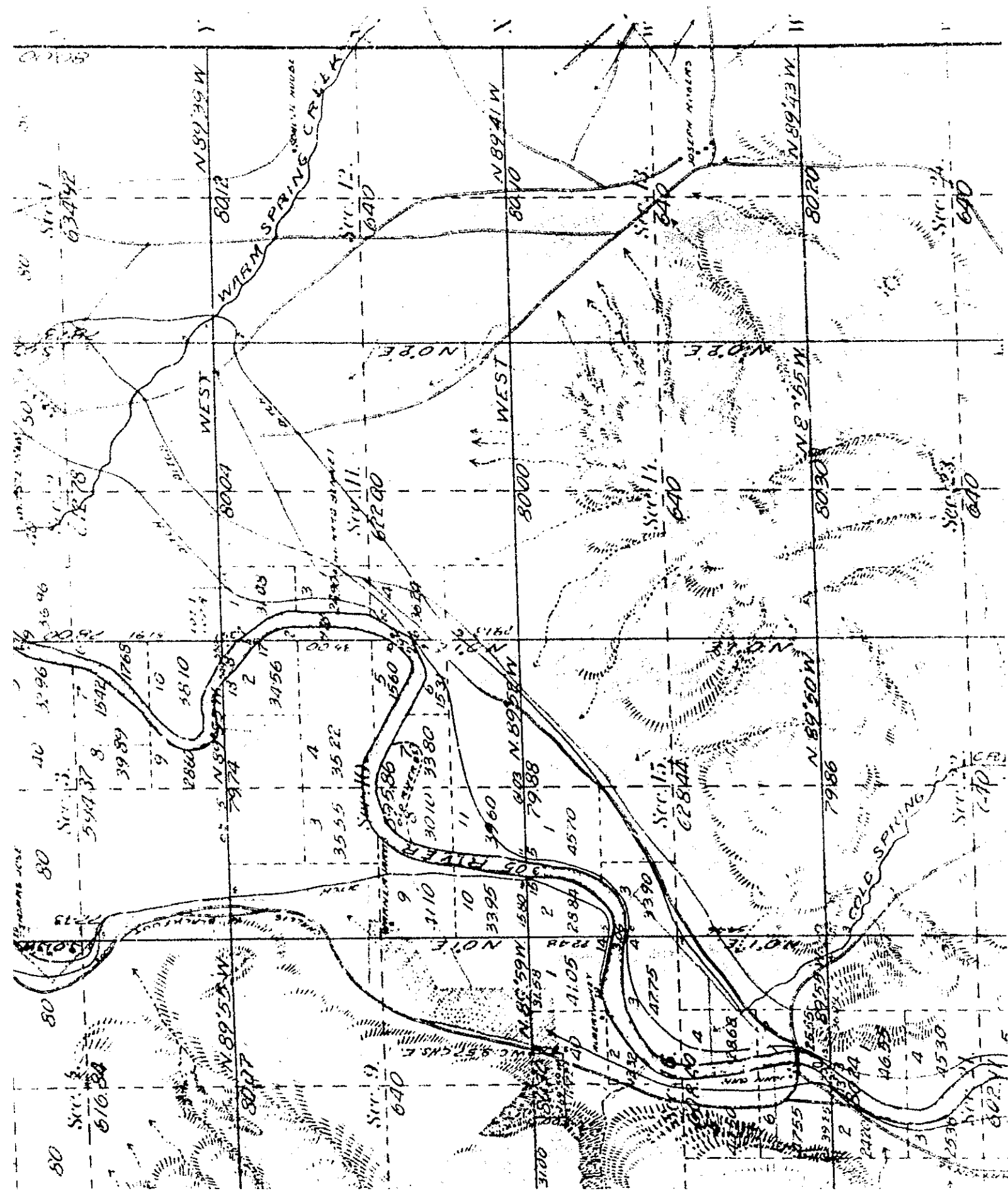
F-51B
W.E. DUNHAM
T-343

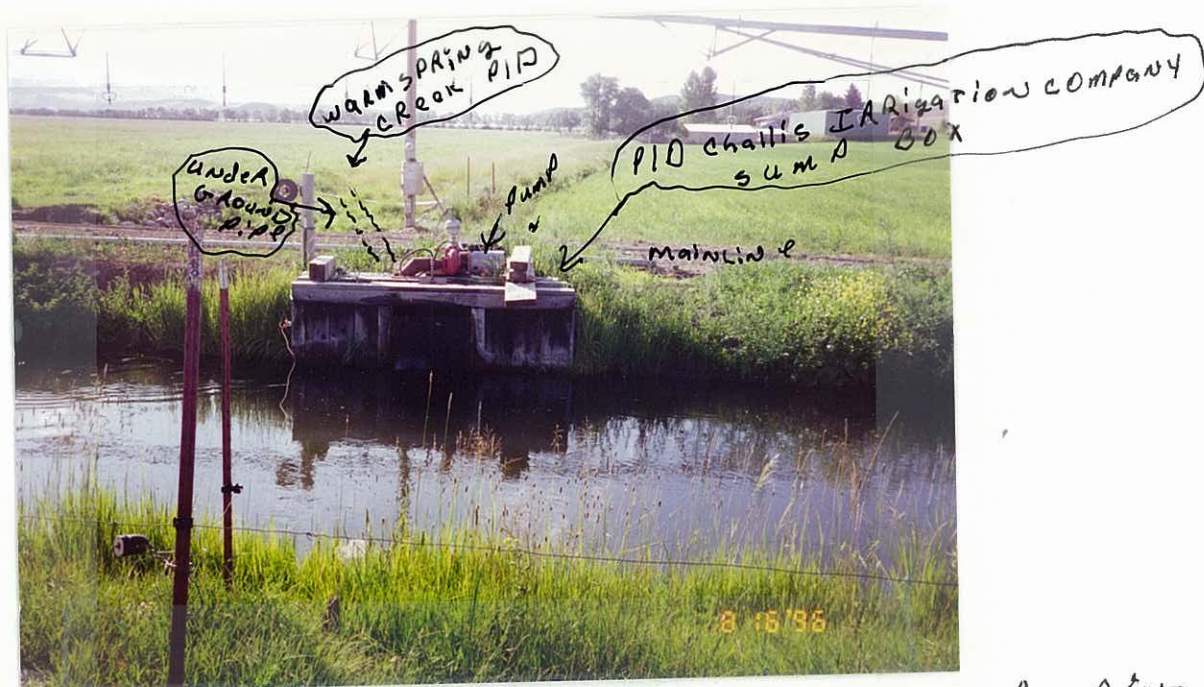
DIVERSION
WORKS



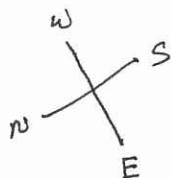
ACRE Calculations
There is a
TOTAL OF
38.5 acres
Being irrigated
UNDER THIS
SYSTEM

F-516
T-343





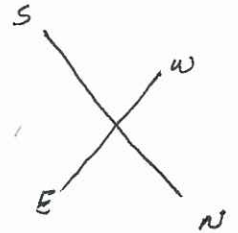
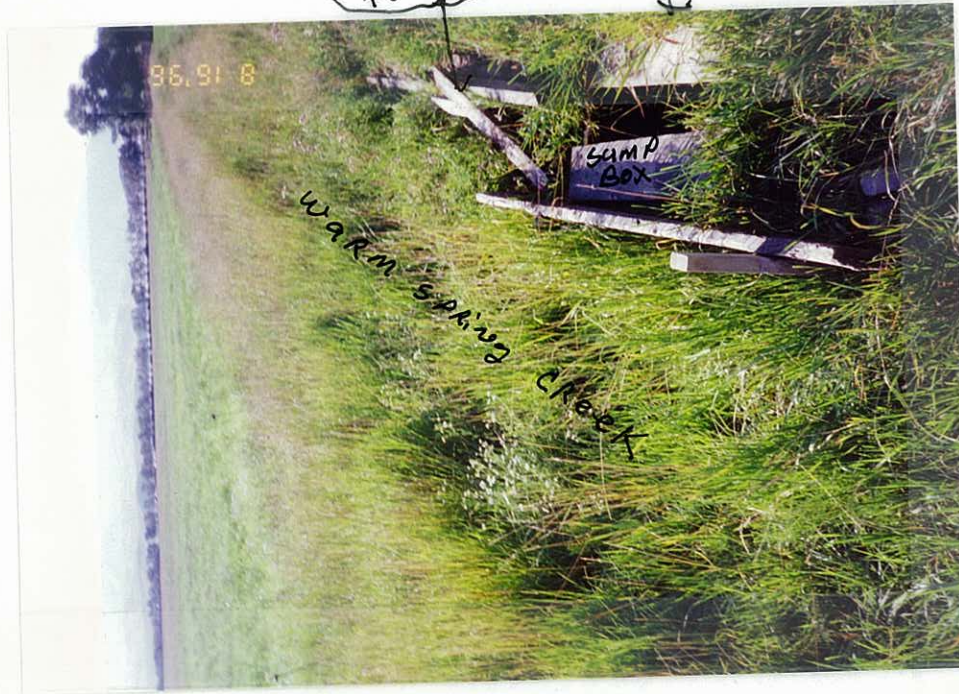
PID Challis irrigation company and main pumping area. The water from both Challis irrigation company and warm spring creek combine in sump and is pumped into main line by a 15 HP pump.



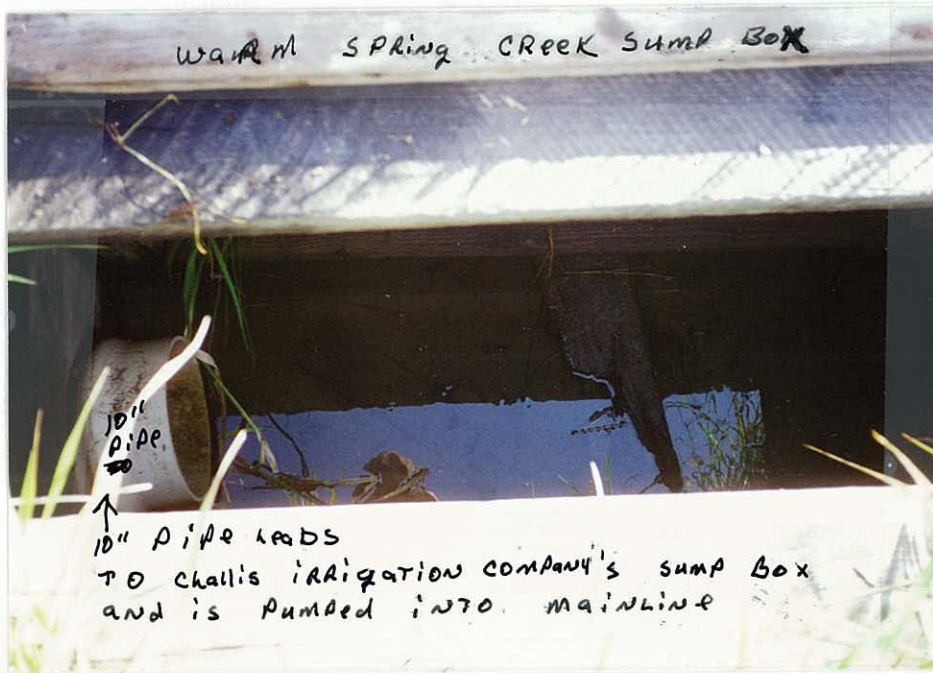
PID Challis irrigation company sump
This is the pump and the meter boards used to regulate water entering sump from canal. Canal water can be controlled by use of the boards.

These Boards used
to regulate flow
into sump

P/D Warm Spring Creek



This is the point of diversion on Warm Spring Creek. The water flows into sump and is transported by 10" pipe underground to Challis Irrigation Company sump box where it is pumped into mainline. Boards are used to meter the amount of flow into sump.



Water
Enters
through screen
↓ This way.

This is the sump box for Warm Spring Creek P/D. The 10" pipe in the bottom of box sends water to Challis Irrigation Company's sump box.