

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

RECEIVED
JUL 02 2001
Department of Water Resources

A. GENERAL INFORMATION

Permit No. 36-08729

1. Owner: Buckeye Farms, Inc. Phone No. (208) 837-6595

Current Address: 18335 U.S. Highway 30, Hagerman, Idaho 83332

2. Accompanied by: Dan Yore EXAM DATE: 1-28-97

Address: same as above Phone No. same as above

Relationship to Permit Holder: Farm and Hunt Club Manager

3. Source: RILEY CREEK tributary to SNAKE RIVER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: SEE ATTACHED LIST

2. Other water rights with the same point of diversion: SEE ATTACHED LIST

C. DIVERSION AND DELIVERY SYSTEM

1. Point(s) of Diversion:

Ident No.	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.	County	Method of Determination
P/D FOR HUNT DITCH RILEY CREEK	6		S W	N E	1	8S	13E	TWIN FALLS	Visual inspection and the use of ASCS aerial photos and USGS Quadrangle maps and Global Satellite Positioning (GPS) transferred into Arcview.

2. Place(s) of Use:

Indicate Method of Determination SAME AS POINT OF DIVERSION

TWP	RGE	SEC	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
07S	13E	27												X			X	X	
07S	13E	34	X	X		X	X		X LT 7 & 9		X LT 3	X LT 4 & 9	X LT 5 & 9		X LT 1	X LT 2			
07S	13E	33			X LT 4 & SEE BELOW	X LT 9 & SEE BELOW									X LT 10 & SEE BELOW	X LT 5 & SEE BELOW		X LT 8	

PLEASE NOTE: All of the above uses are for Wildlife, Wildlife Storage, Recreation, Recreation Storage, Aesthetic, Aesthetic Storage, and an X denotes Diversion to Storage.

J.B. HUNT PLACER SUR. NO 1 LOT 37 RUNS THROUGH THIS PLACE OF USE. ALL DENOTATIONS WITH "SEE BELOW HAS A PORTION OF LOT RUNNING THROUGH IT. LOT 9 IS THE RABIT TRACT MINING CLAIM SUR. NO. 1 LOT 38.

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
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

*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
WEIRS						

2. Measurements: Weirs were used in the field exam calculations. Also the water management measurement report form with sluice gate and rating table was used to calculate the flows of Riley Creek through the Hunt Ditch.

E. NARRATIVE/REMARKS/COMMENTS

The water delivered the ponds on the Buckeye Farm is diverted from 3 sources at 4 different points. There are 4 water rights for the wildlife ponds and 4 water rights for the two fish hatcheries. All of the water is co-mingled; there will be one narrative for all 8 water rights. The first point of diversion for the farm is from Weatherby Springs located in the NESW S30 T 7S R14E. The water from the springs is diverted down the channel through a fish hatchery owned by a neighbor. At the end of the fish hatchery is a weir used to determine the flow going to the Curren Ditch and to Buckeye Farms. This weir is marked on the map as M=11. The water is then transported through the Bar S Ditch and a pipe to the Curren Ditch where it co-mingles with Billingsley Creek water. The second point of diversion is where the Curren Ditch is diverted from Billingsley Creek in the NESW S30 T 7S R14E. There is a weir at this point also and a measurement was made. The Curren Ditch measurement of Billingsley Creek water is marked on the map as M=12. The water travels west down the Curren Ditch to the point where it joins with the Weatherby Springs water. The ditch then continues traveling west to the Buckeye Farms diversion. The ditch splits at this point with a portion of the water traveling northwest through a pipe to other users or continuing west through the Buckeye Farms pipeline. Weirs are installed on both head gates at this diversion. This point is marked as M=13 on the map. All of the water from Weatherby Springs and Billingsley Creek that is run through the Curren Ditch is called Curren Ditch water.

The Buckeye Farms pipe (known as the Curren Pipe) continues west until it reaches the Northeast corner of Section 35 T 7S R13E. At this point the pipe elbows and travels southwest to pond number 1 where it open discharges into the pond. A measurement was made on the Curren Pipeline between where it elbows and Pond 1. This measurement point is marked on the map as M=14. The water in pond 1 can be diverted east through 2 irrigation ditches, south to the Hunt Ditch, North to Pond 2, or Northwest to Pond 20. The ditch that travels north to Pond 2 feeds pond 2, pond 3 and Pond 4. Any remaining water is wasted to the Wildlife Management Area to the east of the farm. The ditch that travels Northwest to Pond 20 can divert into Pond 20 or go through a ditch that travels south to Pond 5.

The water can leave pond 5 through 3 ditches. The first ditch out of Pond 5 travels south to Pond 25, which discharges, directly into the Hunt Ditch. The second ditch out of Pond 5 travels southwest out of Pond 5 to Pond 21 and then to Pond 22. Water in Pond 22 is discharged into 2 ditches. The first ditch travels south into Pond 23 and then down to Pond 24 and then to Pond 25, which diverts into the Hunt Ditch. The second ditch also travels south, but goes directly into Pond 24 and then Pond 25. This ditch also has a second ditch on it that diverts water to Pond 26 that also discharges into Hunt Ditch or North into a ditch that delivers water to the northend ponds or back into the Hunt Ditch. The third ditch out of Pond 5 travels due west. This ditch feeds all of the Northend ponds through a series of ditches. The Northend Ponds include Ponds 6 through 20. Any excess water diverted through the Northend Ponds is diverted back into the main ditch delivering water to Pond 5. All of the water that is run through Ponds 1 through 26 is discharged into the Hunt Ditch.

The Hunt Ditch is diverted from Riley Creek in the SWNE Lt6 S1 T8S R13E. The hunt ditch then travels west to Pond 26. Two ditches from Pond 1 and Pond 25 divert into the pond in the stretch from the point of diversion to Pond 26. At Pond 26 there is a headgate that can divert water from the Hunt Ditch into Pond 26. I measured the amount of water being diverted at this point and it is marked on the map as M=9. The water in Pond 26 can divert back into the Hunt Ditch at the other end of the pond or be diverted into a ditch that travels north to the Northend Ponds. The point where water is diverted back into the Hunt Ditch from Pond 26 was also measured and is marked as M=8 on the map. Once the water passes Pond 26 it flows southwest to the Hunt Ditch Fish Hatchery. All of the water from the Curren Ditch and the Hunt Ditch flows into this hatchery. The water flowing through the hatchery was also measured. At the hatchery the water is either diverted through the hatchery to Pond 27 or is routed through an overflow ditch to Pond 27 or Pond 28. The water diverted through the hatchery can either be diverted into Ponds 27 through 38, known as the Southend Ponds or it can be diverted through the Hunt Ditch to the Hunt/Buckeye Fish hatchery. The water in the Southend Ponds is discharged into the river through either Pond 36 or Pond 37. After

the Hunt Ditch leaves the Hunt Ditch Fish Hatchery it travels northwest to the Hunt/Buckeye Fish hatchery. There is a ditch between the two fish hatchery that does allow water from the Northend Ponds to flow into the Hunt Ditch, but this ditch was dry during my field exam. There is also another diversion between the two fish hatcheries that diverts water into Southend Ponds through Pond 34. At the Hunt/Buckeye Fish hatchery the water is either diverted through the raceways or through an overflow ditch to Pond 34. The water from the Hunt/Buckeye Fish hatchery is then diverted through a ditch that feeds ponds 38 through 45, also known as the Middle Ponds. Water from the Middle ponds is diverted into the Snake River through Ponds 45 and 39. The water in Pond 38 does connect to Pond 35, which diverts into Ponds 36 and 37.

Billingsley Creek water is also diverted through the Buckeye Ditch in the SENE S11 T 13S R 7E. It then flows south through the City of Hagerman supplying water to multiple users until it reaches the Buckeye Farm. Once the water enters the Buckeye Farm a portion of the flow is diverted west to supply water to the Northwest Ponds, Ponds 46 through 53. A measurement was made at this point and is marked on the map as M=7. The water in the Northwest ponds discharge into the Snake River through Pond 47 or 46. Water was not being diverted through the discharge ditch at Pond 47 during my field exam. Further down the Buckeye Ditch there is another diversion that allows water to be diverted through the Middle Ponds through Pond 43. The remainder of the water is sent down the Buckeye Ditch where it co-mingles with the Hunt Ditch and Curren Ditch water at the Hunt/Buckeye fish hatchery. Most of the ponds are only filled during the hunting season and the water is released for use in the 2 fish hatcheries. However, the larger ponds are generally kept full year round to supply nesting sites for the ducks and water for the fish in the ponds. Most of the deeper ponds and better-established ponds have been constructed for a private fishery as well as a hunting area for ducks and geese. During the non-hunting season the shallow ponds are dried up and planted with feed for the ducks. Prior to the hunting season these ponds are filled to allow more area for the clubs hunters.

Diagrams of the fish hatcheries have been drawn and are attached to the applications. They are fairly small commercial fish hatcheries.

OVERLAP:

There are numerous water right overlapping each point of diversion and listing each of them would be extremely difficult. Please see the attached POD and POU overlap sheets for the overlapping rights. The main rights associated with the farm are on a separate spreadsheet that is attached to the overlap sheets. These are the rights owned by Buckeye Farms for both their irrigation and wildlife uses. Since most of the overlapping rights are irrigation rights or other user's rights I recommend that the owners of this permit be limited by the amounts shown on the application. These amounts have been established through many hearings and conflicts and the rates should be maintained.

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

F. FLOW CALCULATIONS

YES Additional Computation Sheets Attached

WATER MEASURED DURING FIELD EXAM = 48.68 CFS (SEE ATTACHED SHEET)

1995 Water Measurement Report = 29 cfs (SEE ATTACHED SHEETS)

PLEASE NOTE: The diversion rate is limited by the amount applied for by the permit of 24 cfs

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

 $V_{I,R} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$ _____ $V_{D,R} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 =$ _____ $V = \text{Smaller of } V_{I,R} \text{ and } V_{D,R} =$ _____

B

2. Volume Calculations for Other Uses:

Storage supplied by Hunt Ditch water = 747.9 afa

24 cfs X 365 days X 1.9835 = 17375.46

PLEASE NOTE: Limiting factor is the combined capacity of the ponds of 747.9 afa.

H. RECOMMENDATIONS

1. Recommended Amounts

BENEFICIAL USE	PERIOD OF USE		ANNUAL	VOLUME
	FROM	TO	Q (CFS)	V(AFA)
WILDLIFE	1/1	12/31	24.00	
WILDLIFE STORAGE	1/1	12/31		747.9
RECREATION	1/1	12/31	24.00	
RECREATION STORAGE	1/1	12/31		747.9
AESTHETIC	1/1	12/31	24.00	
AESTHETIC STORAGE	1/1	12/31		747.9
DIVERSION TO STORAGE	1/1	12/31	24.00	

Totals: 24.00 CFS 747.9 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 (ADD STORAGE)**I. AUTHENTICATION**

Daniel A. Nelson

Field Examiner's Name

Daniel A. Nelson

Date

6-10-2001

Reviewer

Date

SEAL

RECOMMENDATIONS:

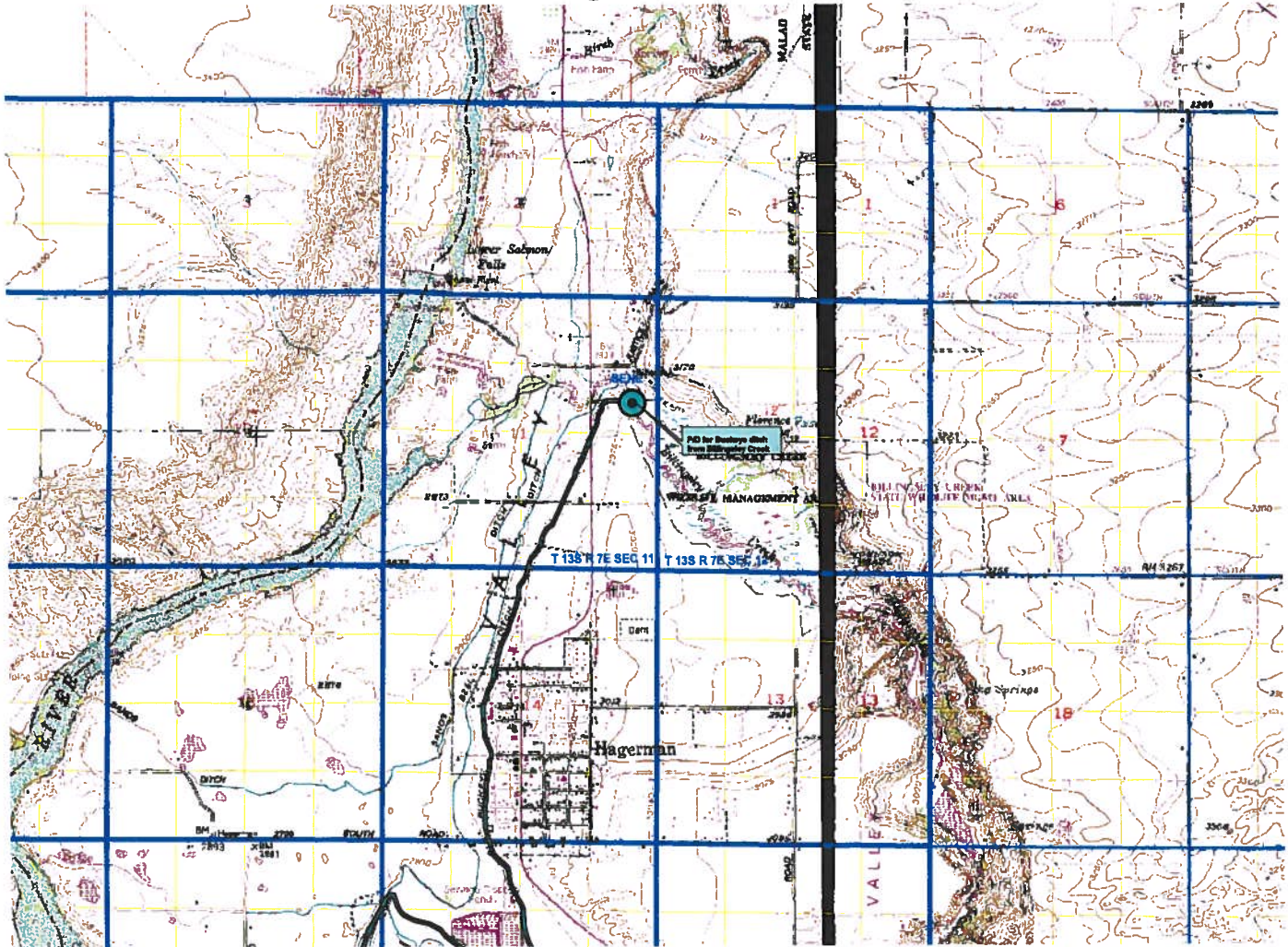
I recommend that this permit be licensed under the following conditions:

1. That it is licensed for 24-cfs diversion rate and a total of 747.9-afa volume.
2. When combined with 36-8728, 36-8730, and 36-8335 this permit should be limited to a total annual volume of 871.3 afa.

Buckeye Farms

Point of diversion from Billingsley Creek

Buckeye Ditch



1320 0 1320264039605280 Feet

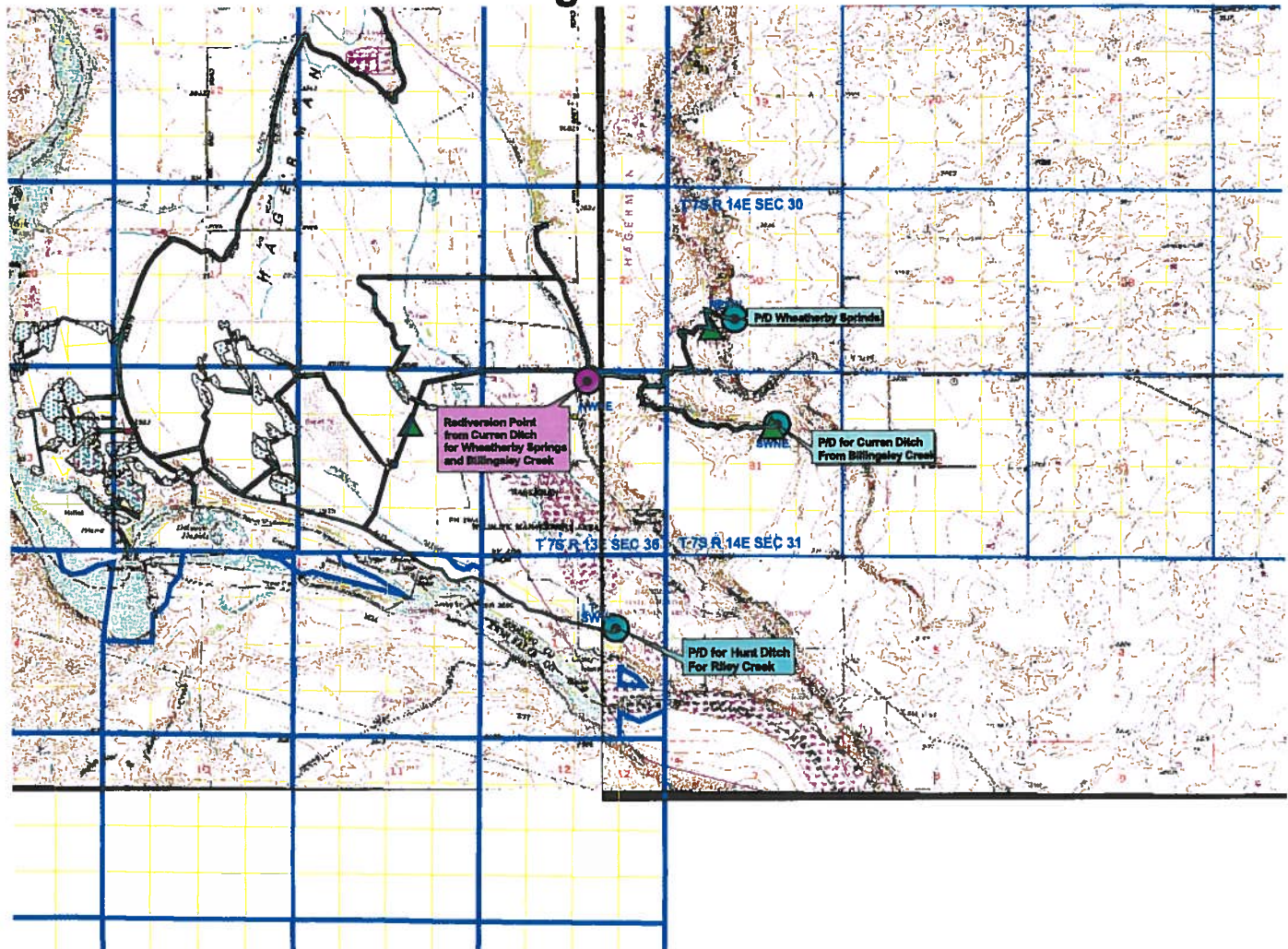


1/4 1/4



Buckeye Farms

Point of diversion from Billingsley Creek and Wheatherby Springs through Curren Ditch and Point of Diversion from Riley Creek Through Hunt Ditch



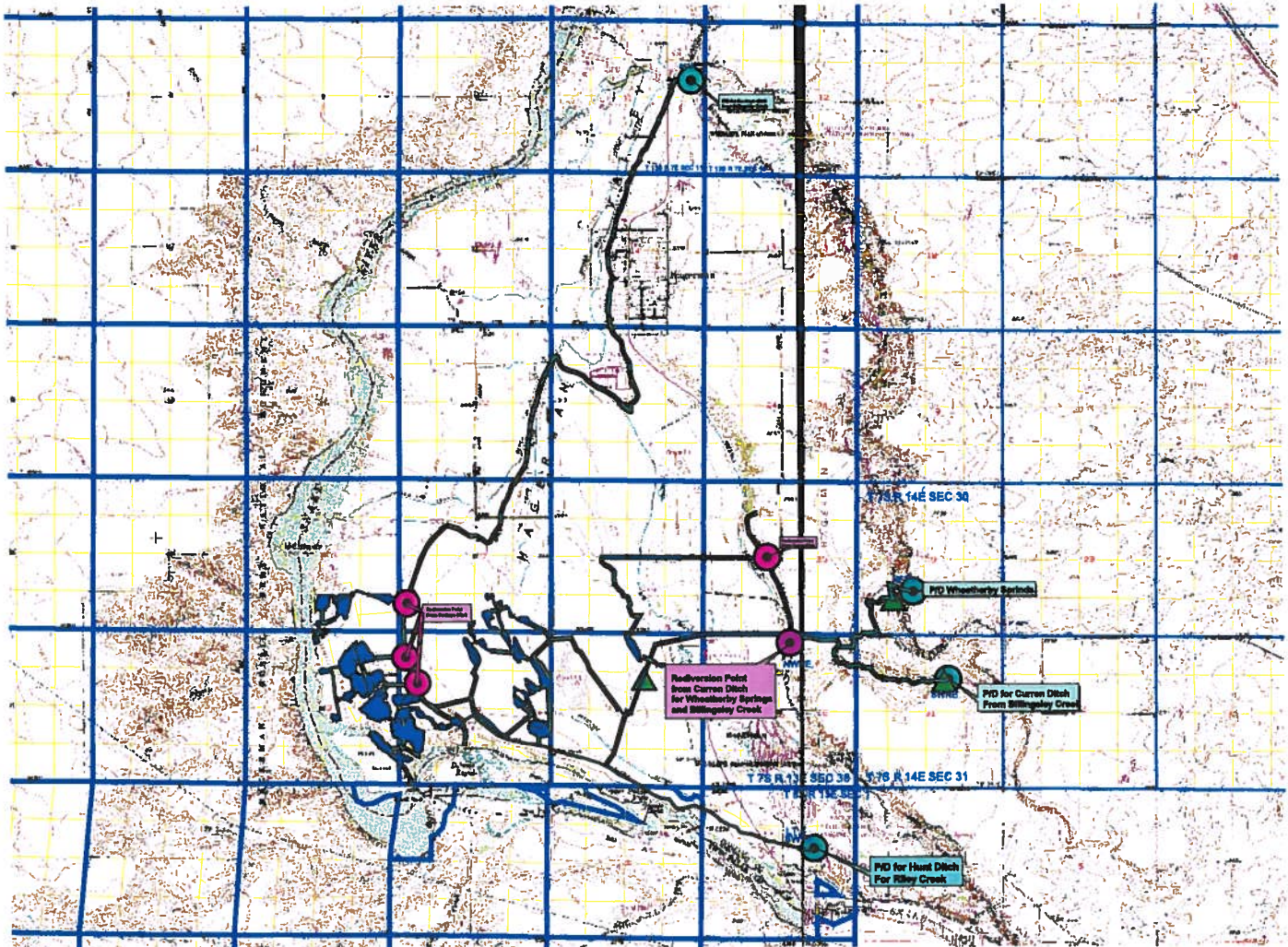
13200 13200 13200 13200 Feet



1/4 1/4



Buckeye Farms Distribution System



0.3 0 0.3 0.6 0.9 1.2 1.5 1.8 2.1 Miles



 Fish Hatcherys

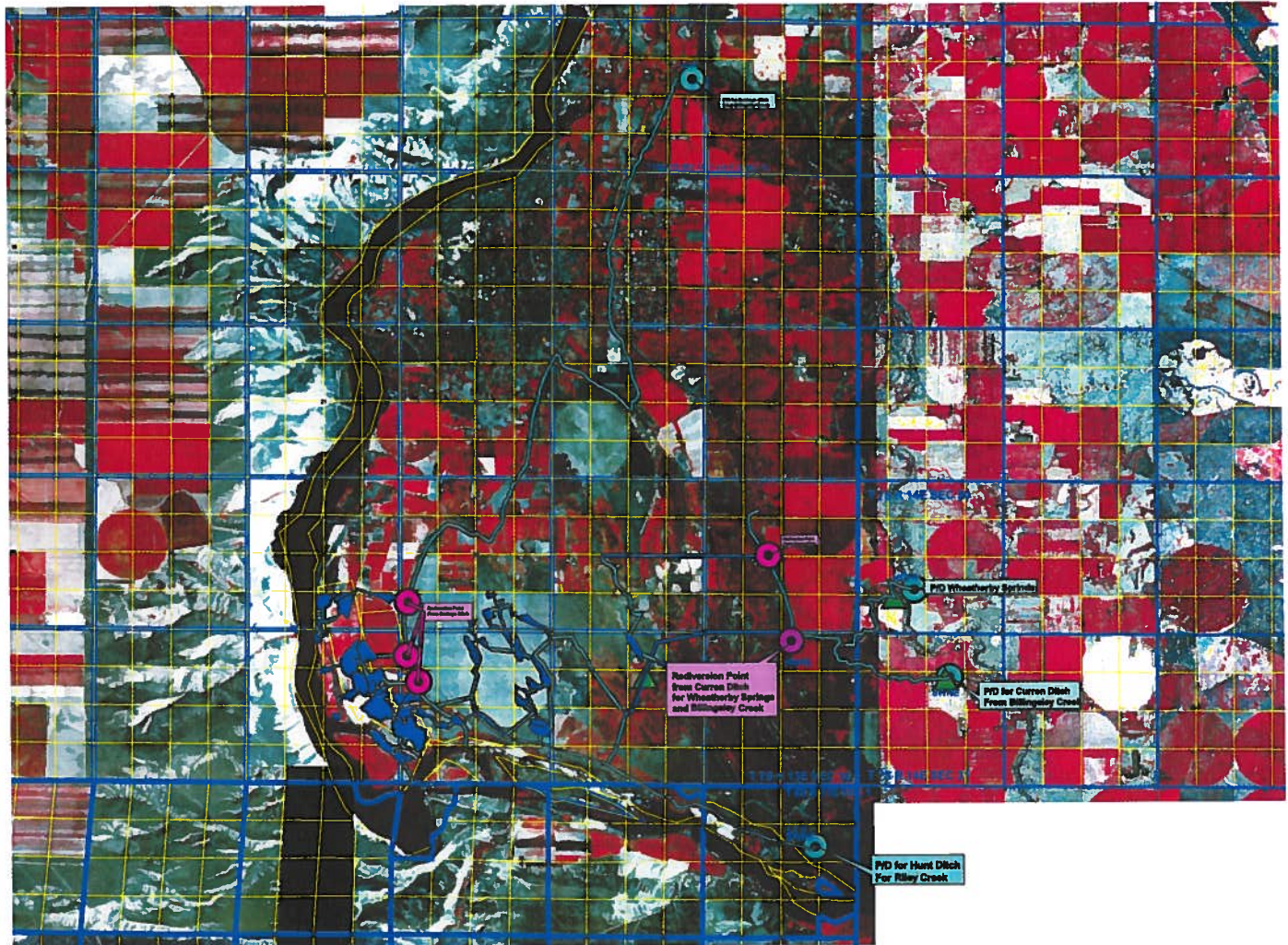
 PONDS

 Points of Diversion

 Rediversion points



Buckeye Farms Distribution System



0.3 0 0.30.60.91.21.51.82.1 Miles



 Fish Hatcherys

 PONDS

 Points of Diversion

 Rediversion points



T 7S R 14E S

T8S R13E SEC 1

LT 6
SWNE

HUNT DITCH P/D
RILEY CREEK

ج

Sec. 26.

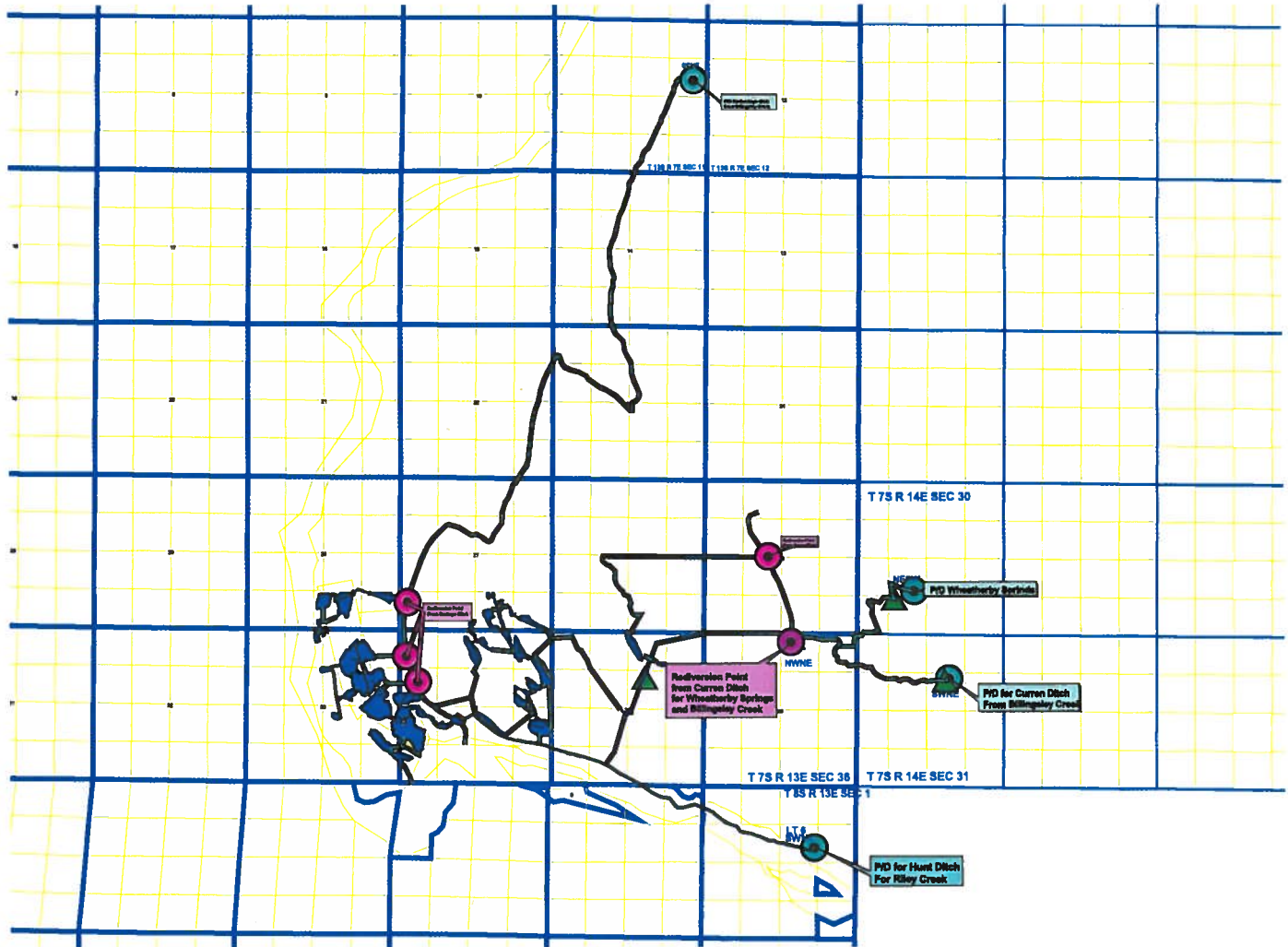
See 32.

See 33



The above
 Wise

Buckeye Farms Distribution System



0.3 0 0.30.60.91.21.51.82.1 Miles

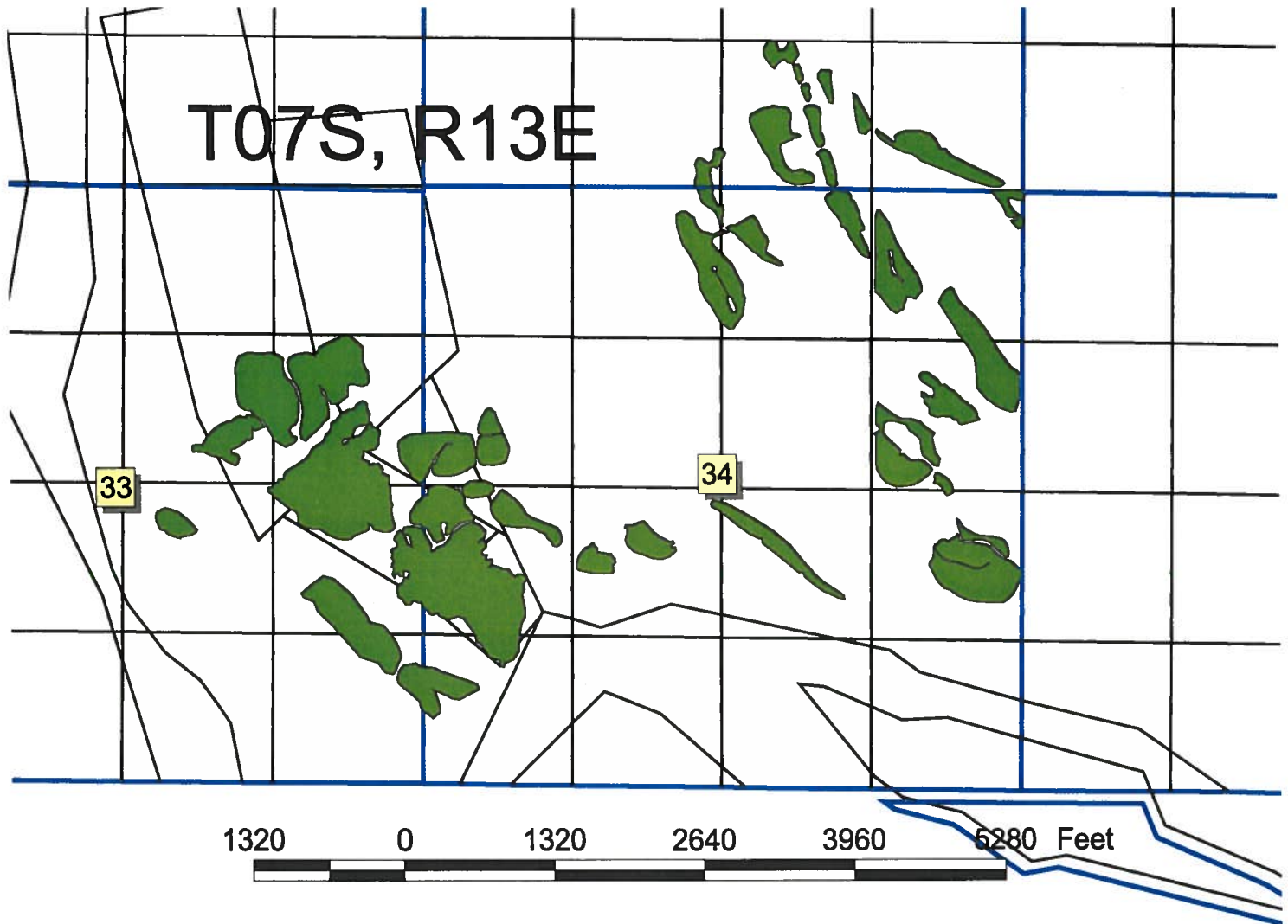


- Fish Hatcherys
- PONDS
- Points of Diversion
- Rediversion points



Buckeye Farms Field Exam 36-8729

Delivered through Hunt Ditch

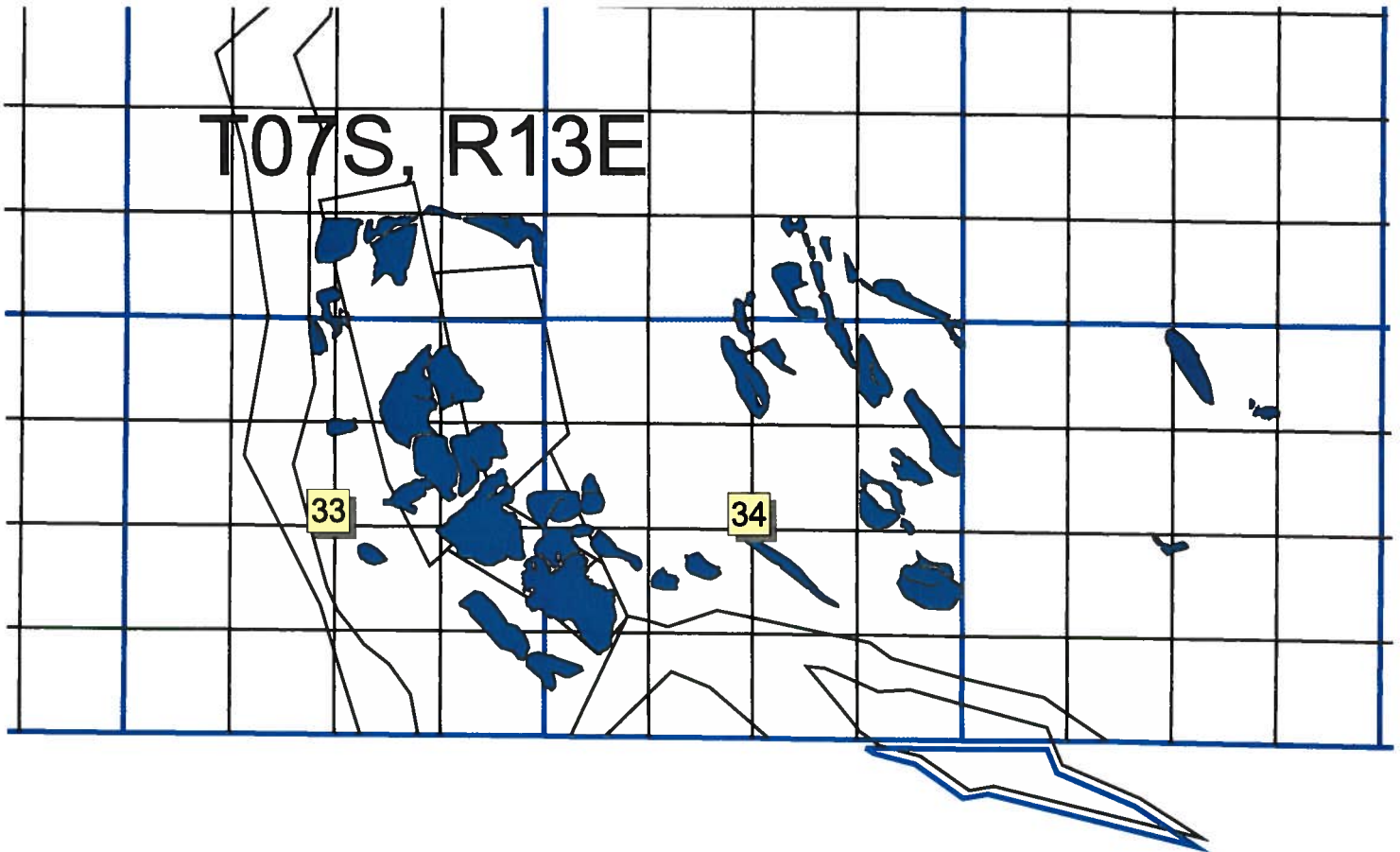


-  Riley ponds.shp
-  T07s13e-sec.shp
-  T07s13eqq.shp

ADM - DN
1/17/01



Buckeye Farms
Total Wildlife/Recreation/Aesthetic Ponds
from all sources
(Weatherby Springs, Billingsley Creek and Riley Creek)



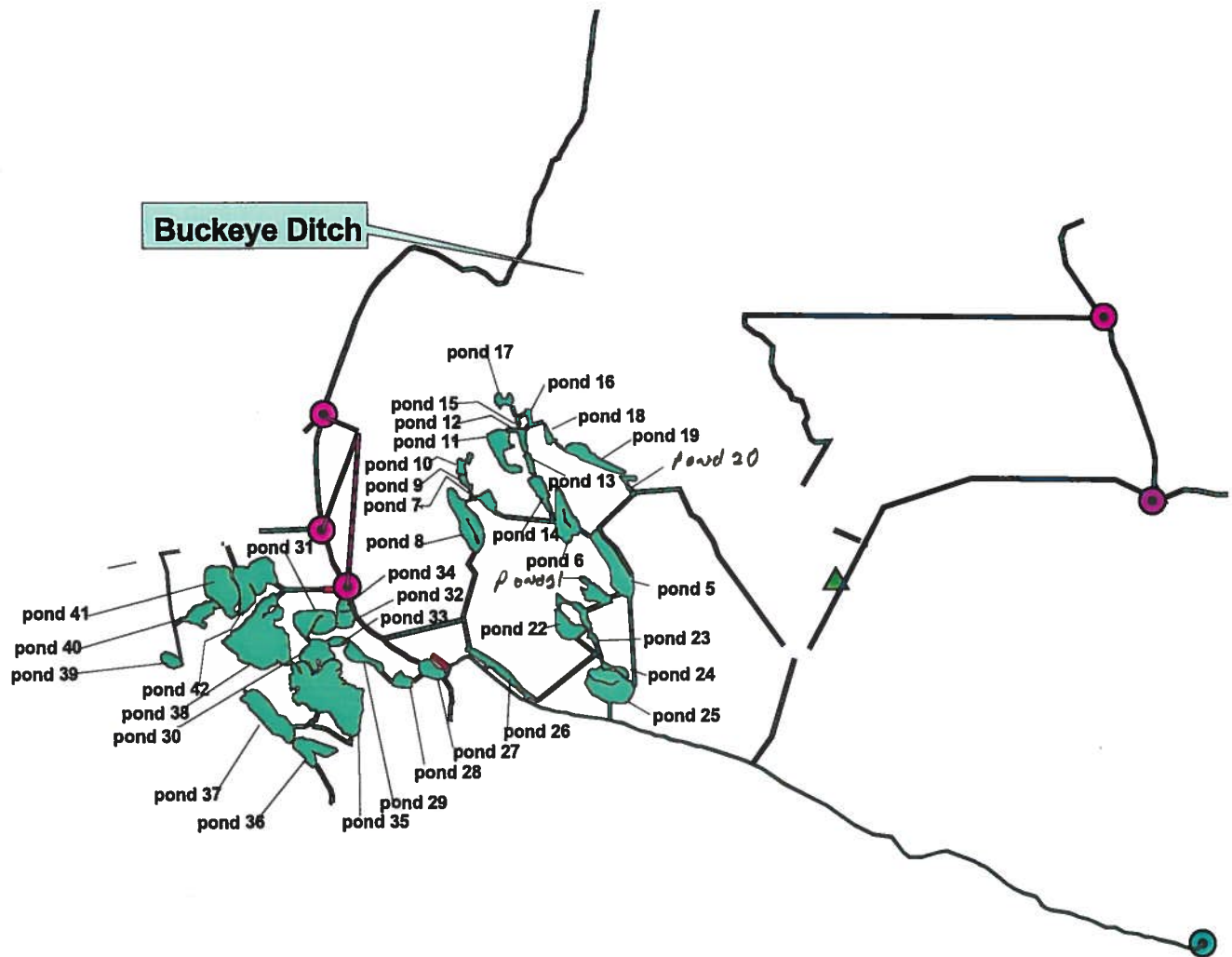
1320 0 1320 2640 3960 5280 Feet

-  Ponds.shp
-  T07s13e-sec.shp
-  T07s13eqq.shp

ADM - DN
1/17/01



PONDS COVERED BY HUNT DITCH RILEY CREEK



1320 0 1320 2640 3960 5280 Feet



 Fish Hatcherys

 PONDS



PONDS FILLED BY HUNT DITCH (RILEY CREEK)

POND #	Area "sq ft"	Perimeter "ft"	Area "Acres"	Ave Depth "ft"	Volume "acre-ft"
5	284686	2771	6.54	8.00	52.30
6	208453	2864	4.79	3.30	15.80
7	78621	1470	1.80	2.50	4.50
8	277908	3775	6.38	3.00	19.10
9	30700	958	0.70	1.50	1.10
10	45690	1169	1.05	1.50	1.60
11	177738	2355	4.08	2.00	8.20
12	39027	929	0.90	3.00	2.70
13	31993	839	0.73	2.00	1.50
14	97700	1586	2.24	2.50	5.60
15	9875	419	0.23	2.00	0.50
16	25442	753	0.58	2.00	1.20
17	59020	1498	1.35	1.50	2.00
18	32005	868	0.73	2.00	1.50
19	173225	2699	3.98	4.30	17.10
20	41977	1366	0.96	2.50	2.40
21	115400	1841	2.65	1.00	2.60
22	219948	3544	5.05	2.00	10.10
23	19605	603	0.45	1.40	0.60
24	38006	1300	0.87	2.00	1.70
25	325479	3432	7.47	304.00	25.40
26	152533	3036	3.50	2.40	8.40
27	94275	1337	2.16	4.40	9.50
28	64325	1046	1.48	4.00	5.90
29	112930	1756	2.59	2.80	7.30
30	169319	1968	3.89	3.00	11.70
31	232575	2605	5.34	2.20	11.70
32	67887	974	1.56	2.00	3.10
33	35017	724	0.80	3.00	2.40
34	34652	731	0.80	1.50	1.20
35	844600	5626	19.39	12.00	232.70
36	171851	2113	3.95	2.70	10.70
37	301993	2599	6.93	4.40	30.50
38	758743	4898	17.42	8.00	139.30
39	62671	989	1.44	2.40	3.50
40	132411	1958	3.04	6.20	18.80
41	315314	2387	7.24	2.80	20.30
42	355752	3195	8.17	6.30	51.50
TOTAL					747.90

BUCKEYE PONDS FIELD REVIEW

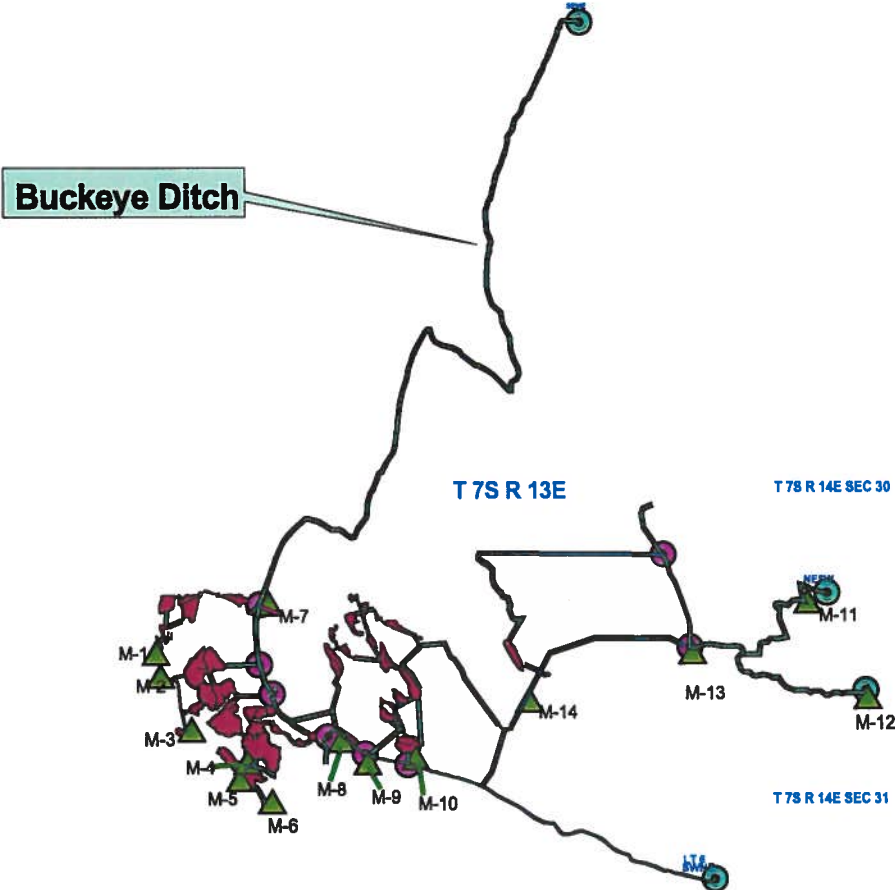
By: ADM
Date: 11/5/1998

Pond #	Area "sq ft"	Perimeter "ft"	Area "Acres"	Ave Depth "ft"	Volume "acre-ft"
1	40566	1288	0.93	2	1.9
2	228496	2377	5.25	2.5	13.1
3	6379	322	0.15	1.5	0.2
4	37793	941	0.87	1.5	1.3
5	284686	2771	6.54	8	52.3
6	208453	2864	4.79	3.3	15.8
7	78621	1470	1.80	2.5	4.5
8	277908	3775	6.38	3	19.1
9	30700	958	0.70	1.5	1.1
10	45690	1169	1.05	1.5	1.6
11	177738	2355	4.08	2	8.2
12	39027	929	0.90	3	2.7
13	31993	839	0.73	2	1.5
14	97700	1586	2.24	2.5	5.6
15	9875	419	0.23	2	0.5
16	25442	753	0.58	2	1.2
17	59020	1498	1.35	1.5	2.0
18	32005	868	0.73	2	1.5
19	173225	2699	3.98	4.3	17.1
20	41977	1366	0.96	2.5	2.4
21	115400	1841	2.65	1	2.6
22	219948	3544	5.05	2	10.1
23	19605	603	0.45	1.4	0.6
24	38006	1300	0.87	2	1.7
25	325479	3432	7.47	3.4	25.4
26	152533	3036	3.50	2.4	8.4
27	94275	1337	2.16	4.4	9.5
28	64325	1046	1.48	4	5.9
29	112930	1756	2.59	2.8	7.3
30	169319	1968	3.89	3	11.7
31	232575	2605	5.34	2.2	11.7
32	67887	974	1.56	2	3.1
33	35017	724	0.80	3	2.4
34	34652	731	0.80	1.5	1.2
35	844600	5626	19.39	12	232.7
36	171851	2113	3.95	2.7	10.7
37	301993	2599	6.93	4.4	30.5
38	758743	4898	17.42	8	139.3
39	62671	989	1.44	2.4	3.5
40	132411	1958	3.04	6.2	18.8
41	315314	2387	7.24	2.8	20.3
42	355752	3195	8.17	6.3	51.5
43	324754	2669	7.46	2.5	18.6
44	535113	4083	12.28	2.2	27.0
45	62569	1057	1.44	2.7	3.9
46	64004	1662	1.47	2.4	3.5
47	84817	1871	1.95	2.6	5.1
48	18065	1162	0.41	1.5	0.6
49	248118	1999	5.70	3	17.1
50	92664	1923	2.13	2.6	5.5
51	285500	2548	6.55	1.6	10.5
52	30349	1152	0.70	3.5	2.4
53	235636	3182	5.41	2.7	14.6
					871.3 Acre-feet TOTAL POND VOLUME
HATCHERY	29946	820	0.69	4	2.7
HATCHERY	30523	817	0.70	4	2.8

5.6 Acre-feet TOTAL HATCHERY VOLUME

POINTS MEASURED FOR BUCKEYE FARMS

Billingsley Creek water delivered through Buckeye Ditch



132001326496286092240580832003284018043200120 Feet



- ▲ POINTS MEASURED
- Points of Diversion
- Rediversion points



MEASUREMENTS INVOLVED WITH BUCKEYE FARMS FIELD EXAMS

The measurements for the inflows from all four sources of the Buckeye Farm's water sources are a complex set of processes. Only the Buckeye Ditch provided a simple measurement from a single source. Therefore, I have created a map attached to this memo that shows all of the points that were measured and have marked the measurement positions as M= #. I will explain how the measurements were used to attain the diversion rate for each source for the pond use and the fish hatchery diversions will be calculated on each hatchery separately.

WHEATHERBY SPRINGS AND BILLINGSLEY CREEK WATER THROUGH THE CURREN DITCH:

Weatherby Springs diverts into a fish hatchery and then into the Wheatherby ditch which empties into the Curren Ditch. The Curren Ditch water is then diverted with a portion going to Buckeye Farms and the remainder going to other users down the creek. Therefore, in order to determine the amount of Wheatherby Springs and Billingsley Creek water that was used by Buckeye Farms, I measured Wheatherby Springs at the fish hatchery (M=13) and the amount of Billingsley Creek water diverted into the Curren Ditch (M=12). This allowed me the ability to determine the percentage of each source flowing in the Curren Ditch. I then measured the amount of water that was being sent to Buckeye Farms through the diversion on the Curren Ditch (M=13) and in their pipeline using a polysonic unit (M=14). I was more comfortable with the Polysonic measurement due to the condition of the weir at the Current Ditch Split (M=13). Therefore, I used the pipeline measurement (M=14) to calculate the amount of water being delivered to Buckeye Farms from the Curren Ditch. The amount of Curren Ditch water being sent to Buckeye Farms would have a proportionate share of Weatherby Springs water and Billingsley Creek water.

Weatherby Springs measurement M=11	=	3.75 cfs
<u>Billingsley Creek diversion measurement M=12</u>	=	<u>27.35 cfs</u>
TOTAL water in Curren Ditch	=	31.10 cfs

$3.75 / 31.10 = 12 \%$ of Curren Ditch water comes from Wheatherby Springs

$27.35 / 31.10 = 88 \%$ of Curren Ditch water comes from Billingsley Creek

Amount of water sent to Buckeye Farms from Curren Ditch = 23.78 cfs

$23.78 \text{ cfs} \times .12 = 2.85 \text{ cfs}$ of the water from the Curren Ditch comes from Wheatherby Springs.

$23.78 \text{ cfs} \times .88 = 20.78 \text{ cfs}$ of the water from the Curren Ditch comes from Billingsley Creek.

Wheatherby Springs Diversion Rate = 2.85 cfs

Billingsley Creek Diversion rater at the Curren Ditch = 20.78 cfs

RILEY CREEK DIVERSION AT HUNT DITCH:

The only place a measurement could be made on the Hunt Ditch was at the Hunt Ditch Fish Hatchery. The measurement at this point was 66.60 cfs. However, water from the Curren Ditch enters the Hunt Ditch before it reaches the hatchery in two places and some of the Riley Creek water is diverted into the pond number 25. The percentages of the water in the Curren Ditch from Wheatherby Springs and Billingsley Creek have already been determined. However, I needed to separate the Riley Ditch water and the Curren Ditch water. Fortunately the discharge points from the ponds both had measurement points as did the diversion point sending water from the Hunt Ditch into pond 25. The first discharge point (M=10) into the Hunt Ditch was solely Curren Ditch water so it did not need to be adjusted. There was very little Riley Creek water lost when it flowed into Pond 25 where it co-mingled with the remainder of the Curren Ditch water. Therefore, I could subtract the amount of Riley Creek water being diverted into the pond (M=9) from the amount of water being discharged back into the Hunt Ditch (M=8) to determine the amount of Curren water that was being discharged into the Hunt Ditch at this point.

Riley Creek and Curren Ditch water flowing back into Hunt Ditch (M=8)	=	7.35 cfs
<u>Riley Creek water being diverted into pond 25 (M=9)</u>	=	<u>0.80 cfs</u>
Curren Ditch water being diverted into Hunt Ditch at pond 25	=	6.55 cfs

Curren Ditch water being diverted into Hunt Ditch at pond 25	=	6.55 cfs
<u>First discharge of Curren Ditch water into hunt ditch (M=10)</u>	=	<u>11.37 cfs</u>
TOTAL amount of Curren Ditch water diverted into Hunt Ditch	=	17.92 cfs

Hunt Fish Hatchery measurement	=	66.60 cfs
Curren Ditch water in Hunt Ditch	=	17.92 cfs
TOTAL of Riley Creek water being diverted in Hunt Fish Hatchery	=	48.68 cfs

48.68 cfs of water being diverted from Riley Creek to ponds and fish hatchery.

BUCKEYE DITCH MEASUREMENT:

This is the only diversion that could be adequately measured (M=7). I measured 18.62 cfs for this ditch. A portion of this water was being diverted into the ponds and 12.92 cfs was being sent to the Buckeye/Hunt fish hatchery. They are at the end of this ditch and are basically subject to whims of the upstream users. They try to maintain a flow of 12.0 cfs to the fish hatchery if possible.

Buckeye Ditch measurement = 18.62 cfs.

FISH PROPOGATION FLOW RATE CALCULATIONS:

Jim Stanton performed a measurement on the Buckeye Ditch diversion from Billingsley Creek of 12.0 cfs. I confirmed this in my field exam of the place of use that 12.92 were being diverted. The permit only allows 12.0 cfs, but they are at the end of the ditch and have to manage what water comes down the ditch. The Buckeye Ditch water only delivers water to Buckeye/Hunt fish hatchery, so this is all that should be allowed from this diversion. The remaining water has been calculated above with 48.68 cfs of Riley Creek water and 17.92 cfs of Curren Ditch water. All the remains to do is calculate the amount of Wheatherby Springs water and Billingsley Creek water that is in the Curren Ditch water using the percentages calculated above of 12% and 88%.

$17.92 \text{ cfs} \times .12 = 2.15 \text{ cfs}$ of Wheatherby Springs water used For Fish Propagation

$17.92 \text{ cfs} \times .88 = 15.77 \text{ cfs}$ of Billingsley Creek water used for Fish Propagation

THEREFORE, THESE ARE DIVERSION RATES FOR FISH PROPAGATION PER SOURCE:

Wheatherby Springs through Curren Ditch	=	2.15 cfs
Billingsley Creek through Curren Ditch	=	15.77 cfs
Riley Creek through Hunt Ditch	=	48.68 cfs
Billingsley Creek through Buckeye Ditch	=	12.00 cfs
TOTAL WATER FOR FISH PROPOGATION	=	78.6 CFS

CALCULATIONS FOR CONSUMPTIVE USE:

I was asked to calculate the total consumptive use for this system. In order to do this I measured the total amount of water flowing into the Snake River (M=1 through M=6). I then subtracted the amount of water leaving the property from the amount of water being diverted onto the property. This would give a total consumptive use from all of the sources. The amount of water consumed by each source was calculated by multiplying each diversion by the percent of water that was consumed through the farm.

Weatherby Springs diversion through Curren Ditch	=	2.85 cfs
Billingsley Creek through Curren Ditch	=	20.78 cfs
Riley Creek through Hunt Ditch	=	48.68 cfs
<u>Billingsley Creek Through Buckeye Ditch</u>	=	<u>18.69 cfs</u>
TOTAL DIVERSION INTO BUCKEYE FARMS	=	91.00 cfs

M=1 Discharge into the river	=	3.65 cfs
M=2 Discharge into the river	=	7.02 cfs
M=3 Discharge into the river	=	15.74 cfs
M=4 Discharge into the river	=	16.85 cfs
M=5 Discharge into the river	=	17.95 cfs
<u>M=6 Discharge into the river</u>	=	<u>5.35 cfs</u>
TOTAL DISCHARGE OUT OF BUCKEYE FARMS	=	66.56 CFS

PERCENTAGE OF WATER CONSUMED ON THE FARM:

$91.00 \text{ CFS} - 66.56 \text{ CFS} = 24.44 \text{ CFS} / 91.00 \times 100 \text{ OR } 26.9 \% \text{ DIVERTED CONSUMPTIVELY USED.}$

Weatherby Springs diversion through Curren Ditch Consumed	=	$2.85 \text{ cfs} \times .269 = 0.77 \text{ cfs}$
Billingsley Creek through Curren Ditch	=	$20.78 \text{ cfs} \times .269 = 5.59 \text{ cfs Consumed}$
Riley Creek through Hunt Ditch	=	$48.68 \text{ cfs} \times .269 = 13.09 \text{ cfs Consumed}$
Billingsley Creek Through Buckeye Ditch	=	$18.69 \text{ cfs} \times .269 = 5.03 \text{ cfs Consumed}$

TOTAL CFS FOR EACH MEASUREMENT

MEASUREMENT # 1	-----	3.65 CFS
MEASUREMENT # 2	-----	7.02 CFS
MEASUREMENT # 3	-----	15.74 CFS
MEASUREMENT # 4	-----	16.85 CFS
MEASUREMENT # 5	-----	17.95 CFS
MEASUREMENT # 6	-----	5.35 CFS
MEASUREMENT # 7	-----	18.62 CFS (Please
Note: this is for the total amount of water in Buckeye ditch.)		
Measurement # 7	-----	12.92 CFS (please
note this is for the water used for fish propogation.)		
MEASUREMENT # 8	-----	7.35 CFS
MEASUREMENT # 9	-----	.80 CFS
MEASUREMENT # 10	-----	11.37 CFS
MEASUREMENT # 11	-----	3.75 CFS
MEASUREMENT # 12	-----	27.35 CFS
MEASUREMENT # 13	-----	20.28 CFS
MEASUREMENT # 14	-----	23.78 CFS
HUNT FISH HATCHERY MEASUREMENT	-----	66.60 CFS
HUNT/BUCKEYE FISH HATCHERY MEASUREMENT	-----	67.99 CFS

PLEASE NOTE: See attached sheets for measuremnt calculations.

[illegible]

BUCKEYE FARMS -- MEASUREMENT #1

Total CFS
7.02075

BUCKEYE FARMS -- MEASUREMENT #2

Distance	Depth	Velocity					
1	0	0	1	0.85	0.46	0.85	0.391
2	1.7	0.92	1	1.7	1.94	1.7	3.298
3	1.7	2.96	1	1.7	3.215	1.7	5.4655
4	1.7	3.47	1	1.7	2.87	1.7	4.879
5	1.7	2.27	1	1.5	1.135	1.5	1.7025
6	1.3	0	1	0.65	0	0.65	0
7	0	0	-7	0	0	0	0
			0	0	0	0	0
			0	0	0	0	0
			0	0	0	0	0
			0	0	0	0	0
			0	0	0	0	0
			0	0	0	0	0
			0	0	0	0	0
			0	0	0	0	0
			0	0	0	0	0
			0	0	0	0	0
			0	0	0	0	0
			0	0	0	0	0
			0	0	0	0	0
			0	0	0	0	0
			0	0	0	0	0
			0	0	0	0	0
Total CFS			0	0	0	0	0
15.736							

WEIR MEASUREMENT

MEASUREMENT # 4:

MEASUREMENT # 4 WAS TAKEN ON A WEIR PRIOR TO POND 37. POND 37 DISCHARGES DIRECTLY INTO THE RIVER AND IT WAS NOT POSSIBLE TO ATTAIN A MEASUREMENT AT THAT POINT.

WEIR FORMULA USED:

THE FOLLOWING WEIR FORMULA

$$Q = (3.33) (\text{LENGTH}) (\text{HEAD}^{1.5})$$

(This is computed using the Francis formula, neglecting the velocity of approach. Since the measurement was made at a fairly level point velocity of approach was not a factor.)

FLOWS IN CUBIC FEET PER SECOND (CFS)

LENGTH -- 3.85 FT. WEIR

HEAD -- 1.20 FT. HEAD

$$Q = (3.33) (L) (H^{1.5})$$

$$Q = (3.33) (3.85) (1.20^{1.5}) \text{ OR } Q = 16.85 \text{ CFS}$$

WEIR MEASUREMENT

MEASUREMENT # 5:

MEASUREMENT # 5 WAS TAKEN ON A WEIR BETWEEN PONDS 36 AND 37. AT THIS POINT POND 36 DISCHARGES INTO POND 37 AND POND 37 DISCHARGES DIRECTLY INTO THE RIVER AND IT WAS NOT POSSIBLE TO ATTAIN A MEASUREMENT AT THAT POINT.

WEIR FORMULA USED:

THE FOLLOWING WEIR FORMULA

$$Q = (3.33) (\text{LENGTH}) (\text{HEAD}^{1.5})$$

(This is computed using the Francis formula, neglecting the velocity of approach. Since the measurement was made at the discharge point of a pond the velocity of approach was not a factor.)

FLOWS IN CUBIC FEET PER SECOND (CFS)

LENGTH -- 4.10 FT. WEIR

HEAD -- 1.20 FT. HEAD

$$Q = (3.33) (L) (H^{1.5})$$

$$Q = (3.33) (4.10) (1.20^{1.5}) \text{ OR } Q = 17.95 \text{ CFS}$$

MEASUREMENT # 6:

MEASUREMENT # 6 WAS TAKEN ON A WEIR AT THE POINT WHERE POND 36 DISCHARGES INTO THE SNAKE RIVER.

WEIR FORMULA USED:

SAME AS ON MEASUREMENT # 5

FLOWS IN CUBIC FEET PER SECOND (CFS)

LENGTH -- 4.05 FT. WEIR

HEAD -- .54 FT. HEAD

$$Q = (3.33) (L) (H^{1.5})$$

$$Q = (3.33) (4.05) (.54^{1.5}) \text{ OR } Q = 5.35 \text{ CFS}$$

WEIR MEASUREMENT

BUCKEYE DITCH MEASUREMENT #7:

THERE WILL BE TWO MEASUREMENTS FROM THIS POINT OF DIVERSION. THE FIRST MEASUREMENT WILL BE FOR THE WATER USED IN THE HUNT/BUCKEYE FISH HATCHERY AND THE OTHER WILL BE FOR THE TOTAL AMOUNT OF WATER IN THE BUCKEYE DITCH.

WEIR FORMULA USED:

THE FOLLOWING WEIR FORMULA

$$Q = (3.33) (LENGTH) (HEAD^{1.5})$$

(This is computed using the Francis formula, neglecting the velocity of approach. Since the measurement was made at a fairly level point velocity of approach was not a factor.)

FLOWS IN CUBIC FEET PER SECOND (CFS)

TOTAL AMOUNT OF WATER IN BUCKEYE DITCH:

LENGTH -- 4.0 FT. WEIR

HEAD -- 1.25 FT. HEAD

$$Q = (3.33) (L) (H^{1.5})$$

$$Q = (3.33) (4.0) (1.25^{1.5}) \text{ OR } Q = 18.62 \text{ CFS}$$

HUNT/BUCKEYE FISH HATCHERY PORTION OF BUCKEYE DITCH WATER:

LENGTH -- 4.0 FT. WEIR

HEAD -- .98 FT HEAD

$$Q = (3.33) (L) (H^{1.5})$$

$$Q = (3.33) (4.05 \text{ FT.}) (.98^{1.5}) \text{ OR } Q = 12.92 \text{ CFS}$$

WEIR MEASUREMENT

MEASUREMENT: #8 AND #9

WHEATHERBY/CURREN WATER'S DISCHARGE INTO HUNT DITCH OUT OF POND #26

THERE WAS WATER FROM HUNT DITCH (MEASUREMENT # 9) ENTERING POND # 26 AND CO-MINGLING WITH WHEATHERBY/CURREN WATER AT ON END OF POND # 26 AND THEN BOTH WHERE DISCHARGED AT THE OTHER END OF THE POND (MEASUREMENT # 8). THEREFORE TO ATTAIN THE TOTAL DISCHARGE OF WHEATHERBY/CURREN WATER OUT OF POND # 26 MEASUREMENT #9 MUST BE SUBTRACTED FROM MEASUREMENT #8.

WEIR FORMULA USED:

THE FOLLOWING WEIR FORMULA

$$Q = (3.33) (\text{LENGTH}) (\text{HEAD}^{1.5})$$

(This is computed using the Francis formula, neglecting the velocity of approach. Since the measurement was made at the *Discharge point of a pond* velocity of approach was not a factor.)

FLOWS IN CUBIC FEET PER SECOND (CFS)

MEASUREMENT # 9:

LENGTH -- 4.6 FT. WEIR
HEAD -- .14 FT HEAD

$$Q = (3.33) (4.6 \text{ FT.}) (.14 ^{1.5}) = .80 \text{ CFS}$$

MEASUREMENT # 8:

LENGTH -- 4.75 FT. WEIR
HEAD -- .60 FT HEAD

$$Q = (3.33) (4.75 \text{ FT.}) (.60 ^{1.5}) = 7.35 \text{ CFS}$$

TOTAL WHEATHERBY/CURREN WATER DISCHARGE INTO HUNT DITCH FROM POND #26

MEASUREMENT #8 - MEASUREMENT #9 = TOTAL WHEATHERBY/CURREN DISCHARGE

7.35 CFS - .80 CFS = 6.55 WHEATHERBY/CURREN DISCHARGE INTO THE HUNT DITCH

WEIR MEASUREMENT

MEASUREMENT: #10

WHEATHERBY/CURREN DISCHARGE INTO HUNT DITCH FROM POND # 25

WEIR FORMULA USED:

THE FOLLOWING WEIR FORMULA

$$Q = (3.33) (\text{LENGTH}) (\text{HEAD}^{1.5})$$

(This is computed using the Francis formula, neglecting the velocity of approach. Since the measurement was made at the discharge point of a pond velocity of approach was not a factor.)

FLOWS IN CUBIC FEET PER SECOND (CFS)

LENGTH -- 4 FT. WEIR
HEAD -- .90 FT HEAD

$$Q = (3.33) (4 \text{ FT.}) (.90^{1.5}) = 11.37 \text{ CFS}$$

TOTAL DISCHARGE OF WHEATHERBY/CURREN WATER INTO HUNT DITCH:

TOTAL WHEATHERBY/CURREN DISCHARGE INTO HUNT DITCH FROM POND #26 (WC POND 26) PLUS WHEATHERBY/CURREN DISCHARGE INTO HUNT DITCH FROM POND # 25 (WC POND 25) EQUALS TOTAL WHEATHERBY/CURREN DISCHARGE INTO HUNT DITCH.

6.55 CFS WC POND 26 + 11.37 WC POND 25 = 17.92 CFS DISCHARGED INTO HUNT DITCH FROM WHEATHERBY & CURREN POINTS OF DIVERSIONS.

WEIR MEASUREMENT

MEASUREMENT: #11

WHEATHERBY P/D

WEIR FORMULA USED:

THE FOLLOWING WEIR FORMULA

$$Q = (3.33) (\text{LENGTH}) (\text{HEAD}^{1.5})$$

(This is computed using the Francis formula, neglecting the velocity of approach. Since the measurement was made at the end of a fish raceway velocity of approach was not a factor.)

FLOWS IN CUBIC FEET PER SECOND (CFS)

LENGTH -- 5 FT. WEIR
HEAD -- .37 FT HEAD

$$Q = (3.33) (5 \text{ FT.}) (.37^{1.5}) = 3.75 \text{ CFS}$$

WEIR MEASUREMENT

MEASUREMENT: #12

CURREN P/D

WEIR FORMULA USED:

THE FOLLOWING WEIR FORMULA

$$Q = (3.33) (\text{LENGTH}) (\text{HEAD}^{1.5})$$

(This is computed using the Francis formula, neglecting the velocity of approach. Since the measurement was made at the end of a fish raceway velocity of approach was not a factor.)

FLOWS IN CUBIC FEET PER SECOND (CFS)

LENGTH -- 10 FT. WEIR
HEAD -- .87 FT HEAD

$$Q = (3.33) (10 \text{ FT.}) (.87^{1.5}) = 27.35 \text{ CFS}$$

WEIR MEASUREMENT

MEASUREMENT: #13

THE WHEATHERBY/CURREN DITCH'S SPLIT INTO TWO CHANNELS:

AFTER THE CURREN AND WHEATHERBY CO-MINGLE THE DITCH FORKS INTO TWO DIRECTIONS. ONE DIRECTION IS USED EXCLUSIVELY BY BUCKEYE FARMS AND THE OTHER DIRECTION IS USED BY OTHER WATER RIGHT HOLDERS OTHER THAN BUCKEYE FARMS.

PLEASE NOTE: THERE WILL BE TWO MEASUREMENTS CALCULATED.

WEIR FORMULA USED:

THE FOLLOWING WEIR FORMULA

$$Q = (3.33) (\text{LENGTH}) (\text{HEAD}^{1.5})$$

(This is computed using the Francis formula, neglecting the velocity of approach. Since the measurement was made at a fairly level point velocity of approach was not a factor.)

FLOWS IN CUBIC FEET PER SECOND (CFS)

BUCKEYE FARMS PORTION OF SPLIT:

LENGTH -- 6 FT. WEIR
HEAD -- 1.01 FT HEAD

$$Q = (3.33) (6 \text{ FT.}) (1.01^{1.5}) = 20.28 \text{ CFS}$$

PLEASE NOTE: I am not confident that this reading is as accurate as the polysonic reading on the pipe due to fluctuating water levels.

OTHER USERS PORTION OF SPLIT:

LENGTH -- 6 FT. WEIR
HEAD -- .47 FT. HEAD

$$Q = (3.33) (6 \text{ FT.}) (.47^{1.5}) = 6.44 \text{ CFS}$$

POLYSONIC READINGS

PERMIT #: MEASUREMENT #14

WHEATHERBY/CURREN PIPELINE

FIRST SET OF INFORMATION:

SET - UP IMPUTE DATA USED DURING
PREPARATION FOR FLOW MEASUREMENTS

SECOND SET OF INFORMATION:

THESE ARE THE READINGS TAKEN FOR
THE WELL. PLEASE NOTE: THE 4GPM
MEANS THE NUMBER SHOWN MUST BE MULTIPLIED
BY 10000.

FLows IN GALLONS PER MINUTE (GPM)

10710
+ 10650
+ 10640
+ 10690
+ 10730
+ 10720
+ 10640
+ 10640
+ 10670
+ 10640
+ 10680

117410

117410 / 11 = 10673.64 GPM

10673.64 / 448.8 = 23.78 CFS

13:28+ 1.071E 4GPM 00R
+00000 *10 G 00R
-00000 *10 G 00R

13:29+ 1.065E 4GPM 00R
+01069 *10 G 00R
-00000 *10 G 00R

13:30+ 1.064E 4GPM 00R
+02135 *10 G 00R
-00000 *10 G 00R

13:31+ 1.069E 4GPM 00R
+03202 *10 G 00R
-00000 *10 G 00R

13:32+ 1.073E 4GPM 00R
+04273 *10 G 00R
-00000 *10 G 00R

13:33+ 1.072E 4GPM 00R
+05343 *10 G 00R
-00000 *10 G 00R

13:34+ 1.064E 4GPM 00R
+06410 *10 G 00R
-00000 *10 G 00R

13:35+ 1.064E 4GPM 00R
+07476 *10 G 00R
-00000 *10 G 00R

13:36+ 1.067E 4GPM 00R
+08540 *10 G 00R
-00000 *10 G 00R

13:37+ 1.064E 4GPM 00R
+09607 *10 G 00R
-00000 *10 G 00R

13:38+ 1.068E 4GPM 00H
+00672 *10 G 00R
-00000 *10 G 00R

MODE SELECT
INPUT

OUTER DIAMETER
29.9311 IN

PIPE MATERIAL
? CS,SS

WALL THICKNESS
0.3780 IN

INNER LINING
? NO LING.

KIND OF FLUID
? WATER

SENSOR MOUNTING
? Z

TYPE OF SENSOR
? SMALL

DATA CHANGE
? NO

DATA CHANGE ER
? NO

SPACING
12.550 IN Z

MODE SELECT
T0 CHECK

0556.1 MMSEC
102.02 % T0

01-28 13:4100 *R
+001.90 % AI2

← SECOND
SET OF
INFORMATION

1ST
SET OF
INFORMATION →



State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000
Phone: (208) 327-7900 FAX: (208) 327-7866

RECEIVED

DEC 31 1996

Department of Water Resources
Southern Region

February 1, 1996

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

Dan Yore
18335 US Highway 30
Hagerman, ID 83332

Re: 1996 Water Measurement Report Forms - Hunt Ditch

Dear Mr. Yore:

Thank you for promptly returning the 1995 water measurement report form(s). The report which you submitted was complete and met the Department's minimum measurement and reporting guidelines. The Department appreciates your diligent effort and cooperation.

Attached to this letter is an expanded rating table which I developed for the Hunt Ditch headgate. When I visited with you and Mr. LeMoyne last spring, I indicated that I would help provide an expanded table. This table provides measurements for each half-inch of head and gate opening instead of going every inch. The table also expands the head amount to 28 inches, where the previous table ended at 24 inches.

I also wish to inform you that following our meeting last spring, I returned to the ditch to field calibrate your headgate and measurement method. On July 6, I made a current meter measurement of the ditch and compared this measurement to the headgate measurement method which you described to me. The current meter measurement was made just below the headgate and resulted in a measured flow of 35.3 cfs. Applying the submerged orifice formula from your table with careful head and area measurements of the headgate orifice/slucice gate device resulted in a discharge of 35.02 cfs. The difference between the two measurements is less than 1 percent. I also applied a modified sluice gate formula and obtained a measurement of 34.3 cfs, a difference of less than 3 percent.

I notice from the report you submitted that your measurements of July 2 and July 9 are 26.5 and 28.5 cfs respectively. This is considerably lower than the 35 cfs which I measured on July 6. The difference may be due to higher stream flow on July 6 or could be due to error in gate opening and head measurements. Please take special care in measuring the head and gate opening, particularly at higher flows.

Enclosed is a new report form for calendar year 1996. This report form must be completed during 1996 and returned to the Department on or before January 15, 1997.

Please note the the 1996 reporting period is from January 1 through December 31. If your diversion is for non-irrigation uses or is a year-round diversion, then you must immediately begin recording diversions, including any diversions between January 1 and the time which you receive this report. If your diversion operates for only part of the year, please record measurements for that period.

Please refer to instructions on page 5 of the attached report for details about completing the measurement report. You may contact me directly at 327-7864 if you have questions about measurement and reporting.

Thanks again for your cooperation.

Sincerely,

A handwritten signature in cursive script that reads "Tim Luke".

Tim Luke

HEAD " INCHES of opening (with $9\frac{1}{2}$ " of Stem above net you HAVE 8" opening

	6	7	8	9	10	11	12	13	14	15	16	17
5	9.9	11.6	13.7	14.9	16.6	18.2	19.9	21.5	23.2	24.8	26.5	28.1
6	10.9	12.7	14.5	16.3	18.1	19.9	21.8	23.6	25.4	27.2	29.0	30.8
7	11.8	13.7	15.7	17.6	19.6	21.5	23.5	25.5	27.4	29.4	31.3	33.3
8	12.6	14.7	16.8	18.8	20.9	23.0	25.1	27.2	29.3	31.4	33.5	35.6
9	13.3	15.5	17.8	20.0	22.2	24.4	26.6	28.9	31.1	33.3	35.5	37.8
10	14.0	16.4	18.7	21.1	23.4	25.8	28.1	30.4	32.8	35.1	37.5	39.8
11	14.7	17.2	19.6	22.1	24.6	27.0	29.5	31.9	34.4	36.8	39.3	41.7
12	15.4	18.0	20.5	23.1	25.6	28.2	30.8	33.3	35.9	38.5	41.0	43.6
13	16.0	18.7	21.4	24.0	26.7	29.4	32.0	34.7	37.4	40.0	42.7	45.4
14	16.6	19.4	22.2	24.9	27.7	30.5	33.2	36.0	38.8	41.5	44.3	47.1
15	17.2	20.1	22.9	25.8	28.7	31.5	34.4	37.3	40.1	43.0	45.9	48.7
16	17.8	20.7	23.7	26.6	29.6	32.6	35.5	38.5	41.5	44.4	47.4	50.3
17	18.3	21.4	24.4	27.5	30.5	33.6	36.6	39.7	42.7	45.8	48.8	51.9
18	18.8	22.0	25.1	28.3	31.4	34.5	37.7	40.8	44.0	47.1	50.3	53.4
19	19.4	22.6	25.8	29.0	32.3	35.5	38.7	41.9	45.2	48.4	51.6	54.9
20	19.9	23.2	26.5	29.8	33.1	36.4	39.7	43.0	46.3	49.7	53.0	56.3
21	20.4	23.7	27.1	30.5	33.9	37.3	40.7	44.1	47.5	50.9	54.3	57.7
22	20.8	24.3	27.8	31.2	34.7	38.2	41.7	45.1	48.6	52.1	55.6	59.0
23	21.3	24.9	28.4	32.0	35.5	39.1	42.6	46.2	49.7	53.3	56.8	60.4
24	21.8	25.4	29.0	32.6	36.3	39.9	43.5	47.1	50.8	54.4	58.0	61.7

#10

6 1/2 7 8
25 25.25 27.2 31.29

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

WATER MEASUREMENT REPORT FORM
FOR
OPEN CHANNEL MEASUREMENT

1995 Reporting Form

RECEIVED

JAN 04 1996

Department of Water Resources

Year end data must be submitted to Idaho Department of Water Resources,
1301 N. Orchard, Boise Idaho 83706, on or before January 15, 1996.

NOTE: Please submit a separate reporting form for each diversion from a
public water source. Refer to page 4 for detailed instructions.

This report form may be used for the following diversion:

Diversion Name or Facility: HUNT DITCH
Water Source: RILEY CREEK

Water Right(s) Owner or Contact:
(owner name(s) may be omitted if there
are multiple owners on same diversion)

SECTION 1. Water Right Holder/Operator Information

Name and Address of Water Right Holder

(If there are multiple water right holders on a common ditch or
conveyance system, please designate the contact person below)

Current Owner

Name YOORE DAN J.
Last, First, MI

Phone 837-6595

Address 18335 U.S. Hwy 30

Fax 837-4998

City HAGERMAN

State & Zip Idaho, 83332

Original Owner (if sold within last year)

Name _____
Last, First, MI

Phone _____

Address _____

Fax _____

City _____

State & Zip _____

Operator or Contact Person

Name _____
Last, First, MI

Phone _____

Address _____

Fax _____

City _____

State & Zip _____

SECTION 2: Water Measurement Log

Each diversion must be read and recorded at least once per week. Flow rates must be recorded in units of cubic feet per second.

DAY	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1								27.7		
2		28.1			26.5					
3							26.7			27.8
4				30						
5							OFF		?	Plugged
6						30.5				
7			23.0							
8								28.0		
9		25.8			28.5					~~27.8~~
10							OFF			27.8
11				28.4						
12									29	
13						29.5				
14			? mass							
15								28.0		
16		25.1			28					
17							28.7			27.8
18				27						
19	28.7								28.3	
20						27.8				
21			OFF							
22								28.7		
23		23.0			28.4					
24							28.7			Plugged
25				28.4						
26	28.1								28.0	
27						27.7				
28			OFF							
29								28.0		
30		26.5			27.8					
31		-----		-----			-----		-----	27.8

SECTION 3. Measuring Device Information

A. Type & Description of Measuring Device(s):

Sluice Gate with Rating Table

B. Attach copies of all measuring device rating tables to this report.

SECTION 4. Certification

I hereby certify that the information reported is correct to the best of my knowledge and that I recognize that willful submittal of false or inaccurate data is a violation of law subject to the penalty provisions of Sections 42-311, 42-350 and 42-351, Idaho Code.

Don J. Gore

Signature

Title

Date

1-2-1996

Note: Each reporting form shall be accompanied by a report processing fee in the amount of twenty dollars (\$20) per diversion made payable to the Idaho Department of Water Resources. (Section 42-701(6), Idaho Code). All domestic uses, as defined in Section 42-111, Idaho Code, and all stockwatering uses, as defined in Section 42-1401A(12), Idaho Code, are exempt from measurement and reporting requirements.

For Department Use Only

Received by _____ Date _____ Time _____

Fee amount submitted _____ Correct? yes _____ no _____

Receipted by RT Receipt No. 0034296

Data Entry by _____ Date 1-6-96

Total Annual Flow (CFS) _____

Total Annual Volume (Acre-Feet) _____

Instructions for Completing Report Form

This report form is for all open channel measurements. The form may also be used for closed conduit measuring devices which do not totalize volume. Supplemental forms must be completed for open channel measurements which are based on rated sections or rated structures.

A label has been attached to page 1 of the report form which identifies the diversion name or facility, source of water, and water right owner name. The water right owner name may be blank if there are multiple water right holders from the same diversion. The diversion or facility name describes either the name of the diversion (*i.e.*; *Bell Ditch*), or the name of the diversion facility (*i.e.*; *Idaho Trout Co. Hatchery at Billingsley Creek*). The label must remain attached to the form.

Section 1: Please use this section to identify the current water right owner. If the current owner is a new owner within the last 12 months, please list the former or original owner in the space provided. If a person other than the water right owner is submitting the report and/or is the person who should be contacted regarding measurement of this diversion, please identify that person and his or her address and phone number in the space provided under 'Operator or Contact Person'.

Section 2: This section may be used to show daily diversion rates. Days of the month are listed in column 1. Months are listed in column 2 through 11. All flows must be recorded in cubic feet per second (CFS). Record the diversion flow rate on this form for each day a measurement is taken. Each diversion must be measured and recorded at least once per week (once every seven days) or more frequently if conditions change or diversion adjustments are made. Weekly measurements and recording must be made unless IDWR has authorized a different schedule. Daily flows may be recorded if the user wishes or is already measuring on a daily basis. A flow rate of 0 (zero) cfs should be entered for any day where water is not diverted. Total annual flow and volume will be computed by IDWR. IDWR will assume constant flow rates between measurements.

Section 3A: Please use this section to describe the type of measuring device or devices being used. *Example: 'A six foot contracted Cippolletti weir installed in ditch approximately 100 feet below headgate.'* An additional description may be required for more complex measurements, or for multiple measuring devices from the same source. *Example: 'Three separate four foot suppressed rectangular weirs, and two separate five foot contracted rectangular weirs installed in outflow of fish hatchery raceways. Measurements at these five weirs are combined to account for total diversion from Spring Creek as reported in Section 2 of this report.'*

Section 3B: Attach all measuring device tables to this report. *(This will be required for first year of reporting only. Submittal of tables in future years will be required if existing measuring device has been changed or re-rated, or if a new measuring device has been installed.)*

Section 4: Affix signature, title and date in space provided and submit \$20 report processing fee with report.

Interested parties may complete and return report as a wordperfect document (DOS/Windows version 5.0 or greater) on either a 3.5 or 5.25 inch floppy disk. To receive a computer file copy of this report, or to obtain information about ASCII file specifications for submittal of measurement data contact:

Idaho Department of Water Resources
Attn: Tim Luke
1301 N. Orchard Street
Boise, ID 83706-2237
ph: (208)-327-7864

HUNT DITCH ORIFICE RATING TABLE

Compiled By T. Luke, IDWR
Jan. 1996

GATE OPENING

inches	6	6 1/2	7	7 1/2	8	8 1/2	9	9 1/2	10	10 1/2	11	11 1/2	12	12 1/2	13	13 1/2	14
ft.	0.50	0.54	0.58	0.63	0.67	0.71	0.75	0.79	0.83	0.88	0.92	0.96	1.00	1.04	1.08	1.13	1.17

HEAD

all flows in cubic feet per second (cfs)

inches	feet	4	4 1/2	5	5 1/2	6	6 1/2	7	7 1/2	8	8 1/2	9	9 1/2	10	10 1/2	11	11 1/2	12	12 1/2	13	13 1/2	14
4	0.33	8.83	9.54	10.25	11.13	11.84	12.54	13.25	13.95	14.66	15.54	16.25	16.96	17.66	18.37	19.08	19.96	20.67				
4 1/2	0.38	9.48	10.24	10.99	11.94	12.70	13.46	14.22	14.97	15.73	16.68	17.44	18.20	18.96	19.71	20.47	21.42	22.18				
5	0.42	9.96	10.76	11.56	12.55	13.35	14.15	14.95	15.74	16.54	17.54	18.33	19.13	19.93	20.73	21.52	22.52	23.32				
5 1/2	0.46	10.43	11.26	12.10	13.14	13.97	14.81	15.64	16.48	17.31	18.35	19.19	20.02	20.86	21.69	22.52	23.57	24.40				
6	0.50	10.87	11.74	12.61	13.70	14.57	15.44	16.31	17.18	18.05	19.13	20.00	20.87	21.74	22.61	23.48	24.57	25.44				
6 1/2	0.54	11.30	12.20	13.11	14.24	15.14	16.04	16.95	17.85	18.75	19.88	20.79	21.69	22.60	23.50	24.40	25.53	26.44				
7	0.58	11.71	12.65	13.58	14.75	15.69	16.63	17.56	18.50	19.44	20.61	21.54	22.48	23.42	24.35	25.29	26.46	27.40				
7 1/2	0.63	12.20	13.18	14.16	15.38	16.35	17.33	18.31	19.28	20.26	21.48	22.45	23.43	24.41	25.38	26.36	27.58	28.56				
8	0.67	12.58	13.59	14.60	15.86	16.86	17.87	18.88	19.88	20.89	22.15	23.16	24.16	25.17	26.18	27.18	28.44	29.45				
8 1/2	0.70	12.86	13.89	14.92	16.21	17.24	18.27	19.30	20.32	21.35	22.64	23.67	24.70	25.73	26.76	27.79	29.07	30.10				
9	0.75	13.31	14.38	15.45	16.78	17.84	18.91	19.97	21.04	22.10	23.43	24.50	25.56	26.63	27.70	28.76	30.09	31.16				
9 1/2	0.79	13.67	14.76	15.85	17.22	18.31	19.40	20.50	21.59	22.68	24.05	25.14	26.24	27.33	28.42	29.52	30.88	31.98				
10	0.83	14.01	15.13	16.25	17.65	18.77	19.89	21.01	22.13	23.25	24.65	25.77	26.89	28.01	29.13	30.26	31.66	32.78				
10 1/2	0.88	14.42	15.58	16.73	18.17	19.33	20.48	21.63	22.79	23.94	25.38	26.54	27.69	28.85	30.00	31.15	32.60	33.75				
11	0.92	14.75	15.93	17.11	18.58	19.76	20.94	22.12	23.30	24.48	25.95	27.13	28.31	29.49	30.67	31.85	33.33	34.51				
11 1/2	0.96	15.06	16.27	17.47	18.98	20.19	21.39	22.60	23.80	25.01	26.51	27.72	28.92	30.13	31.33	32.54	34.05	35.25				
12	1.00	15.37	16.60	17.83	19.37	20.60	21.83	23.06	24.29	25.52	27.06	28.29	29.52	30.75	31.98	33.21	34.75	35.98				
12 1/2	1.04	15.68	16.93	18.19	19.76	21.01	22.26	23.52	24.77	26.03	27.60	28.85	30.10	31.36	32.61	33.87	35.44	36.69				
13	1.08	15.98	17.26	18.53	20.13	21.41	22.69	23.97	25.25	26.52	28.12	29.40	30.68	31.96	33.23	34.51	36.11	37.39				
13 1/2	1.13	16.34	17.65	18.96	20.59	21.90	23.21	24.52	25.82	27.13	28.76	30.07	31.38	32.69	33.99	35.30	36.94	38.24				
14	1.17	16.63	17.96	19.29	20.95	22.28	23.62	24.95	26.28	27.61	29.27	30.60	31.93	33.26	34.59	35.92	37.58	38.92				
14 1/2	1.21	16.91	18.27	19.62	21.31	22.66	24.02	25.37	26.72	28.07	29.77	31.12	32.47	33.82	35.18	36.53	38.22	39.57				
15	1.25	17.19	18.56	19.94	21.66	23.03	24.41	25.78	27.16	28.53	30.25	31.63	33.00	34.38	35.75	37.13	38.85	40.22				
15 1/2	1.29	17.46	18.86	20.26	22.00	23.40	24.80	26.19	27.59	28.99	30.73	32.13	33.53	34.92	36.32	37.72	39.47	40.86				
16	1.33	17.73	19.15	20.57	22.34	23.76	25.18	26.60	28.02	29.43	31.21	32.63	34.04	35.46	36.88	38.30	40.07	41.49				
16 1/2	1.38	18.06	19.51	20.95	22.76	24.20	25.65	27.09	28.54	29.98	31.79	33.23	34.68	36.12	37.57	39.01	40.82	42.26				
17	1.42	18.32	19.79	21.25	23.08	24.55	26.02	27.48	28.95	30.41	32.25	33.71	35.18	36.64	38.11	39.57	41.41	42.87				
17 1/2	1.46	18.58	20.06	21.55	23.41	24.89	26.38	27.87	29.35	30.84	32.70	34.18	35.67	37.15	38.64	40.13	41.99	43.47				
18	1.50	18.83	20.34	21.84	23.73	25.23	26.74	28.25	29.75	31.26	33.14	34.65	36.15	37.66	39.17	40.67	42.56	44.06				
18 1/2	1.54	19.08	20.61	22.13	24.04	25.57	27.09	28.62	30.15	31.67	33.58	35.11	36.63	38.16	39.69	41.21	43.12	44.65				
19	1.58	19.33	20.87	22.42	24.35	25.90	27.44	28.99	30.53	32.08	34.01	35.56	37.11	38.65	40.20	41.74	43.68	45.22				
19 1/2	1.63	19.63	21.20	22.77	24.73	26.30	27.87	29.44	31.01	32.58	34.55	36.12	37.69	39.26	40.83	42.40	44.36	45.93				
20	1.67	19.87	21.46	23.05	25.03	26.62	28.21	29.80	31.39	32.98	34.97	36.56	38.15	39.74	41.33	42.92	44.90	46.49				
20 1/2	1.71	20.11	21.71	23.32	25.33	26.94	28.55	30.16	31.77	33.37	35.39	36.99	38.60	40.21	41.82	43.43	45.44	47.05				

HUNT DITCH ORIFICE RATING TABLE

GATE OPENING

inches	6	6 1/2	7	7 1/2	8	8 1/2	9	9 1/2	10	10 1/2	11	11 1/2	12	12 1/2	13	13 1/2	14
ft.	0.50	0.54	0.58	0.63	0.67	0.71	0.75	0.79	0.83	0.88	0.92	0.96	1.00	1.04	1.08	1.13	1.17

HEAD

inches	feet	1.75	20.34	21.97	23.59	25.63	27.25	28.88	30.51	32.14	33.76	35.80	37.42	39.05	40.68	42.31	43.93	45.97	47.59
21	1.75	20.34	21.97	23.59	25.63	27.25	28.88	30.51	32.14	33.76	35.80	37.42	39.05	40.68	42.31	43.93	45.97	47.59	
21 1/2	1.79	20.57	22.22	23.86	25.92	27.56	29.21	30.86	32.50	34.15	36.20	37.85	39.49	41.14	42.79	44.43	46.49	48.13	
22	1.83	20.80	22.46	24.13	26.21	27.87	29.53	31.20	32.86	34.53	36.61	38.27	39.93	41.60	43.26	44.93	47.01	48.67	
22 1/2	1.88	21.08	22.77	24.45	26.56	28.25	29.93	31.62	33.31	34.99	37.10	38.79	40.48	42.16	43.85	45.53	47.64	49.33	
23	1.92	21.30	23.01	24.71	26.84	28.55	30.25	31.96	33.66	35.36	37.50	39.20	40.90	42.61	44.31	46.02	48.15	49.85	
23 1/2	1.96	21.52	23.25	24.97	27.12	28.84	30.57	32.29	34.01	35.73	37.88	39.61	41.33	43.05	44.77	46.49	48.65	50.37	
24	2.00	21.74	23.48	25.22	27.40	29.14	30.88	32.61	34.35	36.09	38.27	40.01	41.75	43.49	45.23	46.97	49.14	50.88	
24 1/2	2.04	21.96	23.72	25.47	27.67	29.43	31.18	32.94	34.70	36.45	38.65	40.41	42.16	43.92	45.68	47.43	49.63	51.39	
25	2.08	22.17	23.95	25.72	27.94	29.71	31.49	33.26	35.03	36.81	39.03	40.80	42.57	44.35	46.12	47.90	50.11	51.89	
25 1/2	2.13	22.44	24.23	26.03	28.27	30.07	31.86	33.66	35.45	37.25	39.49	41.29	43.08	44.88	46.67	48.47	50.71	52.51	
26	2.17	22.65	24.46	26.27	28.54	30.35	32.16	33.97	35.78	37.60	39.86	41.67	43.49	45.30	47.11	48.92	51.19	53.00	
26 1/2	2.21	22.86	24.68	26.51	28.80	30.63	32.46	34.28	36.11	37.94	40.23	42.06	43.88	45.71	47.54	49.37	51.66	53.48	
27	2.25	23.06	24.91	26.75	29.06	30.90	32.75	34.59	36.44	38.28	40.59	42.43	44.28	46.12	47.97	49.81	52.12	53.97	
27 1/2	2.29	23.27	25.13	26.99	29.32	31.18	33.04	34.90	36.76	38.62	40.95	42.81	44.67	46.53	48.39	50.26	52.58	54.44	
28	2.33	23.47	25.35	27.22	29.57	31.45	33.33	35.20	37.08	38.96	41.30	43.18	45.06	46.94	48.81	50.69	53.04	54.92	
inches	14 1/2	15	15 1/2	16	16 1/2	17	17 1/2	18	18 1/2	19	19 1/2	20	20 1/2	21	21 1/2	22	22 1/2		
ft.	1.21	1.25	1.29	1.33	1.38	1.42	1.46	1.50	1.54	1.58	1.63	1.67	1.71	1.75	1.79	1.83	1.88		
inches	0.33	21.37	22.08	22.79	23.49	24.38	25.08	25.79	26.50	27.20	27.91	28.79	29.50	30.21	30.91	31.62	32.33	33.21	
4	0.38	22.94	23.69	24.45	25.21	26.16	26.92	27.67	28.43	29.19	29.95	30.90	31.66	32.41	33.17	33.93	34.69	35.64	
4 1/2	0.42	24.11	24.91	25.71	26.50	27.50	28.30	29.09	29.89	30.69	31.49	32.48	33.28	34.08	34.87	35.67	36.47	37.46	
5	0.46	25.24	26.07	26.90	27.74	28.78	29.61	30.45	31.28	32.12	32.95	33.99	34.83	35.66	36.50	37.33	38.17	39.21	
5 1/2	0.50	26.31	27.18	28.05	28.92	30.01	30.88	31.75	32.61	33.48	34.35	35.44	36.31	37.18	38.05	38.92	39.79	40.88	
6	0.54	27.34	28.25	29.15	30.05	31.18	32.09	32.99	33.89	34.80	35.70	36.83	37.74	38.64	39.54	40.45	41.35	42.48	
6 1/2	0.58	28.34	29.27	30.21	31.15	32.32	33.25	34.19	35.13	36.06	37.00	38.17	39.11	40.05	40.98	41.92	42.86	44.03	
7	0.63	29.53	30.51	31.48	32.46	33.68	34.66	35.63	36.61	37.59	38.56	39.78	40.76	41.74	42.71	43.69	44.66	45.88	
7 1/2	0.67	30.46	31.46	32.47	33.48	34.73	35.74	36.75	37.56	38.59	39.62	40.65	41.94	42.96	43.99	45.02	46.05	47.08	48.37
8	0.70	31.13	32.16	33.19	34.22	35.50	36.53	37.56	38.59	39.62	40.65	41.94	42.96	43.99	45.02	46.05	47.08	48.37	
8 1/2	0.75	32.22	33.29	34.35	35.42	36.75	37.81	38.88	39.94	41.01	42.08	43.41	44.47	45.54	46.60	47.67	48.73	50.06	
9	0.79	33.07	34.16	35.26	36.35	37.72	38.81	39.90	41.00	42.09	43.18	44.26	45.66	46.78	47.90	49.02	50.15	51.27	52.67
9 1/2	0.83	33.90	35.02	36.14	37.26	38.66	39.78	40.90	42.02	43.14	44.26	45.66	46.78	47.90	49.02	50.15	51.27	52.67	
10	0.88	34.90	36.06	37.21	38.36	39.81	40.96	42.11	43.27	44.42	45.58	47.02	48.17	49.33	50.48	51.63	52.79	54.23	
10 1/2	0.92	35.69	36.87	38.05	39.23	40.70	41.88	43.06	44.24	45.42	46.60	48.08	49.26	50.43	51.61	52.79	53.97	55.45	

HUNT DITCH ORIFICE RATING TABLE

		GATE OPENING																
		inches 14 1/2	15	15 1/2	16	16 1/2	17	17 1/2	18	18 1/2	19	19 1/2	20	20 1/2	21	21 1/2	22	22 1/2
HEAD		ft. 1.21	1.25	1.29	1.33	1.38	1.42	1.46	1.50	1.54	1.58	1.63	1.67	1.71	1.75	1.79	1.83	1.88
inches	feet																	
11 1/2	0.96	36.46	37.66	38.87	40.07	41.58	42.78	43.99	45.19	46.40	47.60	49.11	50.31	51.52	52.72	53.93	55.13	56.64
12	1.00	37.21	38.44	39.67	40.90	42.43	43.66	44.89	46.12	47.35	48.58	50.12	51.35	52.58	53.81	55.04	56.27	57.81
12 1/2	1.04	37.94	39.20	40.45	41.71	43.27	44.53	45.78	47.04	48.29	49.55	51.11	52.37	53.62	54.88	56.13	57.39	58.95
13	1.08	38.67	39.94	41.22	42.50	44.10	45.38	46.66	47.93	49.21	50.49	52.09	53.37	54.64	55.92	57.20	58.48	60.08
13 1/2	1.13	39.55	40.86	42.17	43.47	45.11	46.42	47.72	49.03	50.34	51.65	53.28	54.59	55.90	57.20	58.51	59.82	61.45
14	1.17	40.25	41.58	42.91	44.24	45.90	47.23	48.56	49.89	51.22	52.55	54.22	55.55	56.88	58.21	59.54	60.87	62.53
14 1/2	1.21	40.93	42.28	43.63	44.99	46.68	48.03	49.38	50.74	52.09	53.44	55.13	56.49	57.84	59.19	60.55	61.90	63.59
15	1.25	41.60	42.97	44.35	45.72	47.44	48.82	50.19	51.57	52.94	54.32	56.04	57.41	58.79	60.16	61.54	62.91	64.63
15 1/2	1.29	42.26	43.66	45.05	46.45	48.20	49.59	50.99	52.39	53.78	55.18	56.93	58.32	59.72	61.12	62.52	63.91	65.66
16	1.33	42.91	44.33	45.75	47.16	48.94	50.36	51.77	53.19	54.61	56.03	57.80	59.22	60.64	62.06	63.48	64.90	66.67
16 1/2	1.38	43.71	45.15	46.60	48.04	49.85	51.29	52.74	54.18	55.63	57.07	58.88	60.32	61.77	63.21	64.66	66.10	67.91
17	1.42	44.34	45.80	47.27	48.73	50.57	52.03	53.50	54.96	56.43	57.90	59.73	61.19	62.66	64.12	65.59	67.06	68.89
17 1/2	1.46	44.96	46.44	47.93	49.42	51.27	52.76	54.25	55.73	57.22	58.70	60.56	62.05	63.53	65.02	66.51	67.99	69.85
18	1.50	45.57	47.08	48.58	50.09	51.97	53.48	54.98	56.49	58.00	59.50	61.39	62.89	64.40	65.91	67.41	68.92	70.80
18 1/2	1.54	46.17	47.70	49.23	50.75	52.66	54.19	55.71	57.24	58.77	60.29	62.20	63.73	65.25	66.78	68.31	69.83	71.74
19	1.58	46.77	48.31	49.86	51.41	53.34	54.89	56.43	57.98	59.52	61.07	63.00	64.55	66.09	67.64	69.19	70.73	72.67
19 1/2	1.63	47.50	49.07	50.64	52.21	54.18	55.75	57.32	58.89	60.46	62.03	63.99	65.56	67.13	68.70	70.27	71.84	73.81
20	1.67	48.08	49.67	51.26	52.85	54.84	56.43	58.02	59.61	61.20	62.78	64.77	66.36	67.95	69.54	71.13	72.72	74.71
20 1/2	1.71	48.65	50.26	51.87	53.48	55.49	57.10	58.71	60.32	61.92	63.53	65.54	67.15	68.76	70.37	71.98	73.58	75.60
21	1.75	49.22	50.85	52.47	54.10	56.14	57.76	59.39	61.02	62.64	64.27	66.31	67.93	69.56	71.19	72.81	74.44	76.47
21 1/2	1.79	49.78	51.43	53.07	54.72	56.77	58.42	60.06	61.71	63.36	65.00	67.06	68.70	70.35	72.00	73.64	75.29	77.34
22	1.83	50.33	52.00	53.66	55.32	57.40	59.07	60.73	62.40	64.06	65.72	67.80	69.47	71.13	72.80	74.46	76.12	78.20
22 1/2	1.88	51.02	52.70	54.39	56.08	58.18	59.87	61.56	63.24	64.93	66.62	68.72	70.41	72.10	73.78	75.47	77.16	79.26
23	1.92	51.56	53.26	54.96	56.67	58.80	60.50	62.21	63.91	65.62	67.32	69.45	71.16	72.86	74.56	76.27	77.97	80.10
23 1/2	1.96	52.09	53.81	55.53	57.26	59.41	61.13	62.85	64.57	66.30	68.02	70.17	71.89	73.61	75.34	77.06	78.78	80.93
24	2.00	52.62	54.36	56.10	57.84	60.01	61.75	63.49	65.23	66.97	68.71	70.88	72.62	74.36	76.10	77.84	79.58	81.75

$$Q = CA (\text{SQRT } 2gH)$$

Where: C = 0.655, A = area of gate opening, g = 32.2, H = head

CALCULATIONS FOR BASIN 36 SW OPEN
CHANNEL DIVERSION LOG SHEETS
IDWR CALCULATIONS FOR ANNUAL/SEASONAL VOLUME
HUNT DITCH
3/1 - 12/31, 1995

CFS	AF CON	DAYS	AF
28.7	1.9835	25	1423.16
28.1		14	780.31
25.8		7	358.22
25.1		7	348.50
23		7	319.34
26.5		7	367.94
23		14	638.69
30		7	416.54
28.4		14	788.64
27		7	374.88
26.5		7	367.94
28.5		7	395.71
28		7	388.77
28.4		7	394.32
27.8		7	385.99
30.5		7	423.48
29.5		7	409.59
27.8		7	385.99
27.7		7	384.60
26.7		2	105.92
28.7		27	1537.01
27.7		7	384.60
28		28	1555.06
29		7	402.65
28.3		7	392.93
28		7	388.77
27.8		29	1599.10
		286	15718.64

OVERLAP REVIEW FOR BUCKEYE FARMS

HUNT DITCH

36-00001	IRRIGATION	DECREEED	12.0 CFS
36-00002	IRRIGATION	DECREEED	10.45 CFS
* 36-07741	FISH PROPOGATION	PERMIT	24.0 CFS
*36-08729	WILDLIFE AESTHETIC RECREATION	PERMIT	24.0 CFS

BUCKEYE DITCH

36-00003H	IRRIGATION	DECREEED	11.9 CFS
36-07739	FISH PROPOGATION	PERMIT	12.0 CFS
*36-08335	WILDLIFE AESTHETIC RECREATION	PERMIT	12.0 CFS
36-07739	FISH PROPOGATION	LICENSE ?	12.0 CFS



WHEATHERBY SPRINGS

36-00015	IRRIGATION	DECREEED	6.5 CFS
*36-07740	FISH PROPOGATION	PERMIT	
*36-08728	WILDLIFE AESTHETIC RECREATION	PERMIT	6.5 CFS
T36-00015		TRANSFER	

BILLINGSLEY CREEK

36-00018	IRRIGATION	DECREEED	20.0 CFS
*36-07742	FISH PROPOGATION	PERMIT	20.0 CFS
*36-08730	WILDLIFE AESTHETIC RECREATION	PERMIT	20.0 CFS
T36-00018		TRANSFER	

These are the only overlapping rights that seem to have any significance. Applications for permit were not included.

Riley Creek Diversion into Hunt Ditch

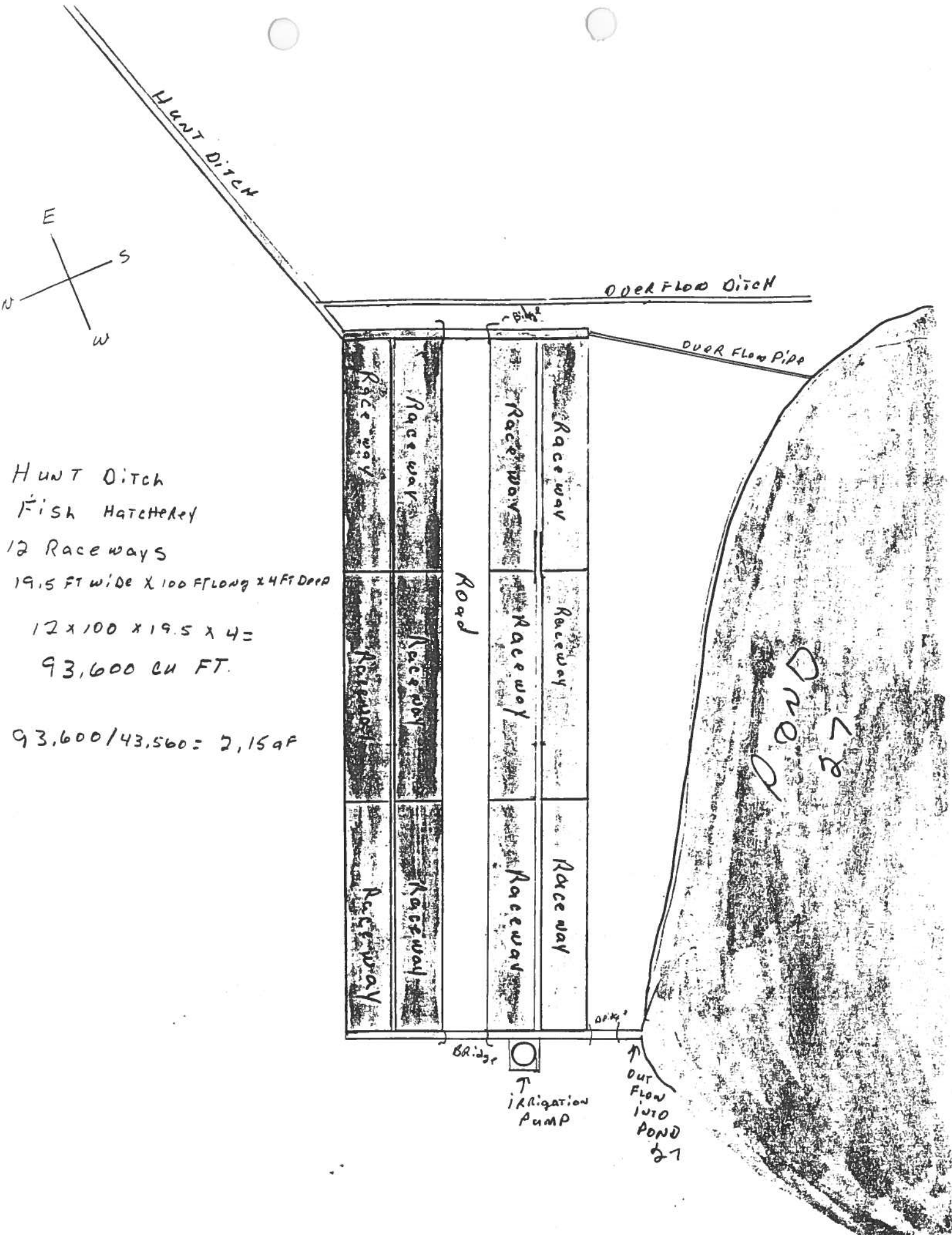
BASIN	Sequence Number	Split Suffix	Basin	Status	Priority Date	RATE	Source List	Water Use List	Owner List	Source Table
36	1		Decreed	Active	1883-05-01	12	RILEY CREEK	IRRIGATION	BUCKEYE FARMS INC (Current)	Adjudication Claim
36	1		Decreed	Active	1883-05-01	12	RILEY CREEK	IRRIGATION	BUCKEYE FARMS INC (Current)	Adjudication Recommendation
36	1		Decreed	Active	1883-05-01	12	RILEY CREEK	IRRIGATION	BUCKEYE FARMS INC (Current)	Water Right
36	2		Decreed	Active	10/1/1908	12	RILEY CREEK	IRRIGATION	BUCKEYE FARMS INC (Current)	Adjudication Claim
36	2		Decreed	Active	10/1/1908	10.45	RILEY CREEK	IRRIGATION	BUCKEYE FARMS INC (Current)	Adjudication Recommendation
36	2		Decreed	Active	10/1/1908	10.45	RILEY CREEK	IRRIGATION	BUCKEYE FARMS INC (Current)	Water Right
36	31		Decreed	Active	1883-05-01	0.5	RILEY CREEK	IRRIGATION	LE MOYNE, JOHN R (Current); LE MOYNE, MARGARET (Current)	Adjudication Claim
36	31		Decreed	Active	1883-05-01	0.47	RILEY CREEK	IRRIGATION	LE MOYNE, JOHN R (Current); LE MOYNE, MARGARET (Current)	Adjudication Recommendation
36	31		Decreed	Active	1883-05-01	0.47	RILEY CREEK	IRRIGATION	LE MOYNE, JOHN R (Current); LE MOYNE, MARGARET (Current)	Water Right
36	32		Decreed	Active	1883-05-01	0.31	RILEY CREEK	IRRIGATION	LE MOYNE, JOHN R (Current); LE MOYNE, MARGARET (Current)	Adjudication Claim
36	32		Decreed	Active	1883-05-01	0.12	RILEY CREEK	IRRIGATION	LE MOYNE, JOHN R (Current); LE MOYNE, MARGARET (Current)	Water Right
36	56		Decreed	Active	1883-05-01	0.3	RILEY CREEK	IRRIGATION	GRIDLEY, ANNA (Current); GRIDLEY, WALTER (Current)	Water Right
36	126		Decreed	Active	1883-05-01	1	RILEY CREEK	IRRIGATION	WHARTON JR, J A (Current); WHARTON, ALPHA (Current)	Water Right

BASIN	Sequence Number	Split Suffix	Basin	Status	Priority Date	RATE	Source List	Water Use List	Owner List	Source Table
36	137		Decreed	Active	4/1/1901	3	RILEY CREEK	IRRIGATION	IDAHO POWER CO (Current)	Water Right
36	195		Decreed	Active	5/1/1918	0.5	RILEY CREEK	DOMESTIC, STOCKWATER	IDAHO POWER CO (Current)	Water Right
36	2046		License	Active	12/1/1939	3.5	RILEY CREEK	DOMESTIC, IRRIGATION	IDAHO POWER CO (Current)	Water Right
36	2718		License	Active	1/21/1905	0.5	RILEY CREEK	DOMESTIC, IRRIGATION	JOHNSON, WILLIAM M (Current)	Water Right
36	7729		License	Active	5/6/1977	40	RILEY CREEK	FISH PROPAGATION	LE MOYNE, JOHN R (Current); LE MOYNE, MARGARET (Current)	Adjudication Claim
36	7729		Decreed	Active	5/6/1977	40	RILEY CREEK	FISH PROPAGATION	LE MOYNE, JOHN R (Current); LE MOYNE, MARGARET (Current)	Water Right
36	7741			Active	8/1/1977	24	RILEY CREEK	FISH PROPAGATION	BUCKEYE FARMS INC (Current)	Water Right Permit
36	7842		License	Active	2/22/1979	28.5	RILEY CREEK	FISH PROPAGATION	LE MOYNE, RUSSELL (Current); LE MOYNE, SANDRA (Current)	Adjudication Claim
36	7842		Decreed	Active	2/22/1979	28.5	RILEY CREEK	FISH PROPAGATION	LE MOYNE, RUSSELL (Current); LE MOYNE, SANDRA (Current)	Water Right
36	8097		License	Active	7/13/1982	40	RILEY CREEK	POWER	LE MOYNE, JOHN R (Current); LE MOYNE, MARGARET (Current)	Adjudication Claim
36	8097		Decreed	Active	7/13/1982	40	RILEY CREEK	POWER	LE MOYNE, JOHN R (Current); LE MOYNE, MARGARET (Current)	Water Right
36	8729			Active	9/24/1987	24	RILEY CREEK	AESTHETIC, RECREATION, WILDLIFE	BUCKEYE FARMS INC (Current)	Water Right Permit
36	8785			Active	10/29/1998	16	RILEY CREEK	AESTHETIC, FISH PROPAGATION, RECREATION, WILDLIFE	BUCKEYE FARMS INC (Current); BUCKEYE FARMS INC (Current)	Water Right Application

[illegible]

Type	WR #	Owner	Source	TBS	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SENW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE	Total
App	36 1	BUCKEYE FARMS INC.	RILEY CREEK	07S13E28															40	35	75
App	36 1	BUCKEYE FARMS INC.	RILEY CREEK	07S13E28															40	35	75
Claim	36 2	BUCKEYE FARMS INC.	RILEY CREEK	07S13E28															40	35	75
Claim	36 2	BUCKEYE FARMS INC.	RILEY CREEK	07S13E28															40	35	75
Claim	36 3H	BUCKEYE FARMS INC.	BILLINGSLEY CREEK	07S13E28															40	35	75
Claim	36 3H	BUCKEYE FARMS INC.	BILLINGSLEY CREEK	07S13E28															40	35	75
Claim	36 1	BUCKEYE FARMS INC.	RILEY CREEK	07S13E28															40	40	95
Claim	36 2	BUCKEYE FARMS INC.	RILEY CREEK	07S13E28															40	40	95
Claim	36 3H	BUCKEYE FARMS INC.	BILLINGSLEY CREEK	07S13E28															40	40	100
Permit	36 3	NEW INTERNATIONAL MORTGAGE BANK,	BILLINGSLEY CREEK	07S13E28																	
Rec	36 8335	BUCKEYE FARMS INC.	BILLINGSLEY CREEK	07S13E28																	
Rec	36 8784	BUCKEYE FARMS INC.	BILLINGSLEY CREEK	07S13E28																	
Rec	36 8784	BUCKEYE FARMS INC.	BILLINGSLEY CREEK	07S13E28																	
Rec	1 212	TWIN FALLS NORTH SIDE LAND & WATER, NORTH SIDE CANAL CO.	SNAKE RIVER	07S13E28																	
Rec	1 213	FALLS NORTH SIDE LAND & WATER CO.	SNAKE RIVER	07S13E28																	
Rec	1 215	TWIN FALLS NORTH SIDE LAND & WATER CO.	SNAKE RIVER	07S13E28																	
Rec	1 220	TWIN FALLS NORTH SIDE LAND & WATER CO.	SNAKE RIVER	07S13E28																	
Rec	36 11068	HARRY R GISLER.	GROUND WATER	07S13E28	X																
Rec	36 11068	HARRY R GISLER.	GROUND WATER	07S13E28	X																
Rec	36 198	KINGSTON PROPERTIES LP.	BILLINGSLEY CREEK	07S13E28																	
Rec	36 198	KINGSTON PROPERTIES LP.	BILLINGSLEY CREEK	07S13E28																	
Rec	36 21	HARRY R GISLER.	BILLINGSLEY CREEK	07S13E28	X																
Rec	36 21	HARRY R GISLER.	BILLINGSLEY CREEK	07S13E28	X																
Rec	36 21	LEO BELL, GLENN BELL, MRS E	BILLINGSLEY CREEK	07S13E28																	
Rec	36 21	M BELL,	BILLINGSLEY CREEK	07S13E28	X																
Flight	36 21B	HARRY R GISLER.	BILLINGSLEY CREEK	07S13E28	X																
Flight	36 21B	HARRY R GISLER.	BILLINGSLEY CREEK	07S13E28	X																
Flight	36 21B	HARRY R GISLER.	BILLINGSLEY CREEK	07S13E28	X																
Claim	36 21B	HARRY R GISLER.	BILLINGSLEY CREEK	07S13E28	X																
Claim	36 21C	UNITED STATES OF AMERICA.	BILLINGSLEY CREEK	07S13E28	8																
Claim	36 3B	DAVID O KINGSTON.	BILLINGSLEY CREEK	07S13E28	12																
Claim	36 3B	DAVID O KINGSTON.	BILLINGSLEY CREEK	07S13E28																	
Rec	36 3B	KINGSTON PROPERTIES LP.	BILLINGSLEY CREEK	07S13E28																	
Rec	36 3B	KINGSTON PROPERTIES LP.	BILLINGSLEY CREEK	07S13E28																	
Flight	36 3B	KINGSTON PROPERTIES LP.	BILLINGSLEY CREEK	07S13E28																	
Flight	36 3B	KINGSTON PROPERTIES LP.	BILLINGSLEY CREEK	07S13E28																	
Flight	36 3B	KINGSTON PROPERTIES LP.	BILLINGSLEY CREEK	07S13E28																	
Flight	36 3B	KINGSTON PROPERTIES LP.	BILLINGSLEY CREEK	07S13E28																	
Flight	36 5B	KINGSTON PROPERTIES LP.	BILLINGSLEY CREEK	07S13E28																	
Flight	36 5B	KINGSTON PROPERTIES LP.	BILLINGSLEY CREEK	07S13E28																	

[illegible]



HUNT Ditch

Fish Hatchery

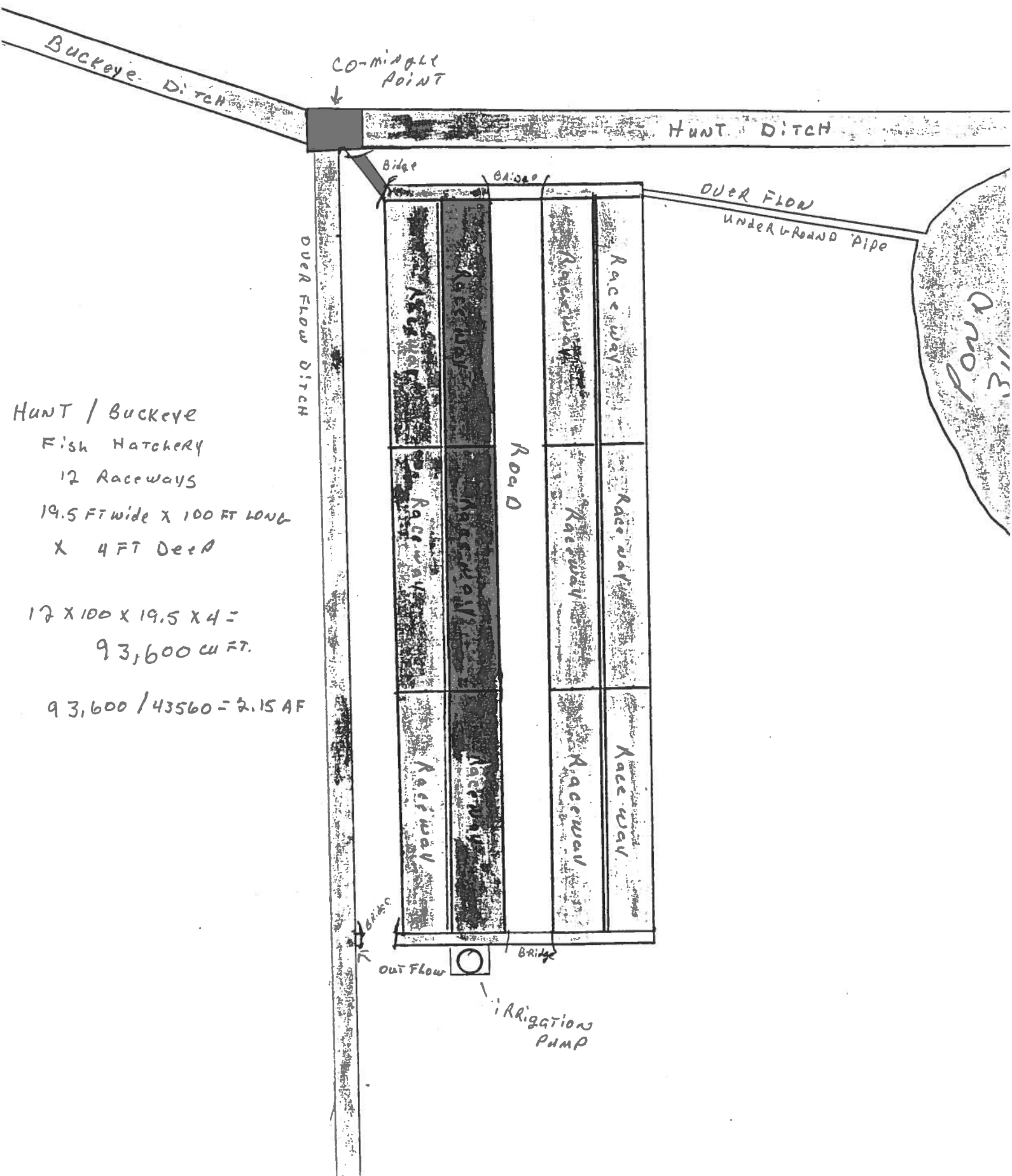
12 Raceways

19.5 FT wide X 100 FT long X 4 FT Deep

$12 \times 100 \times 19.5 \times 4 =$

93,600 CU FT.

$93,600 / 43,560 = 2.15 \text{ AF}$



HUNT / BUCKEYE

FISH HATCHERY

12 Raceways

19.5 FT wide X 100 FT LONG

X 4 FT Deep

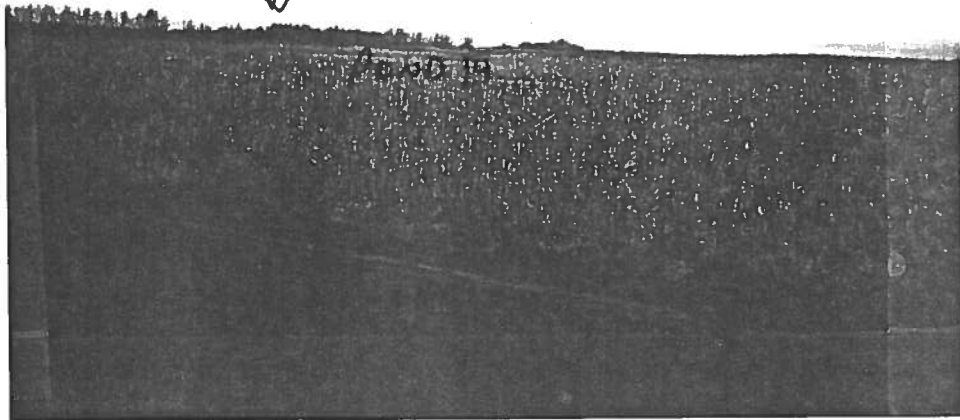
$12 \times 100 \times 19.5 \times 4 =$

93,600 cu ft.

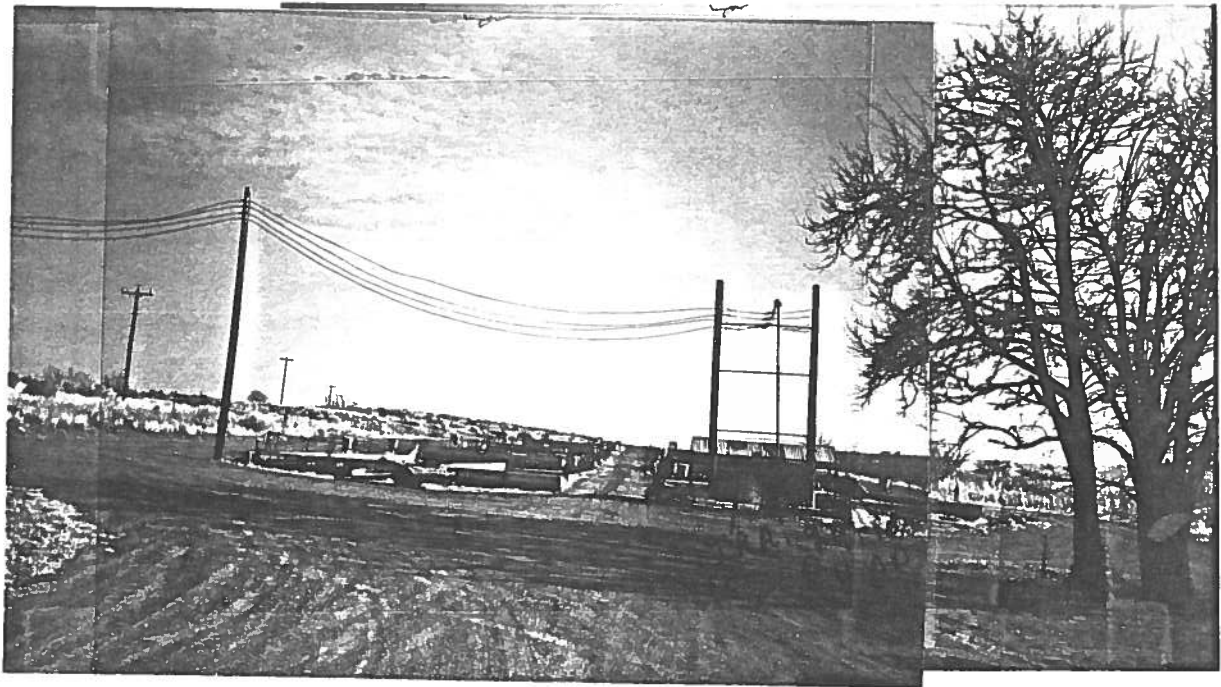
$93,600 / 43560 = 2.15 \text{ AF}$

Original
Photos in
Field Exam
36-07741

This is Pond #6



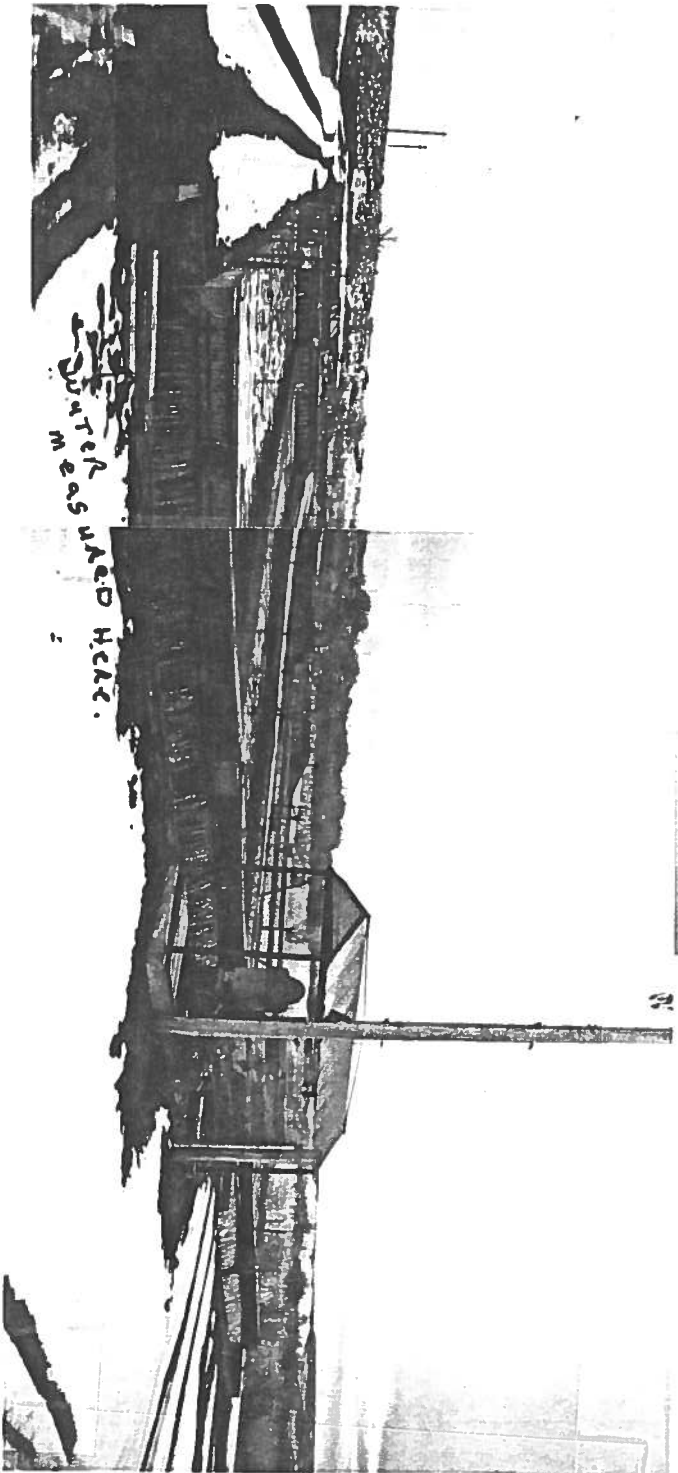
POND #14



HUNT DITCH FISH HATCHERY

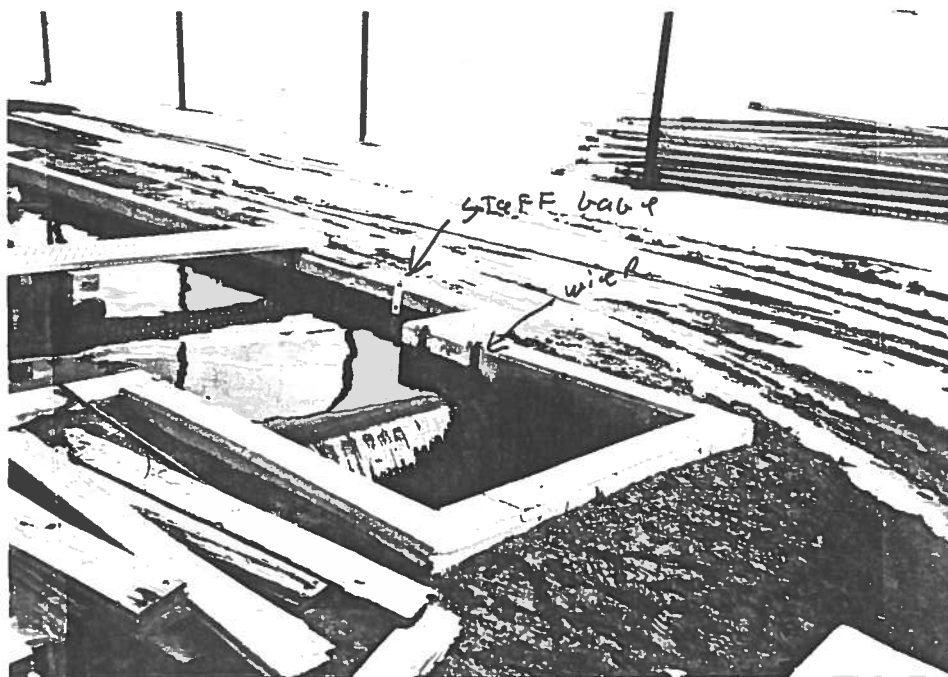
There is an irrigation pump in the tin shed
at the end of the fish hatchery

Original
Photos in
Field Exam
07741
Basin - 36



HUNT / BUCKEY FISH HATCHERY.
WATER WAS MEASURED AT THE OUTLET OF THIS FISH HATCHERY.

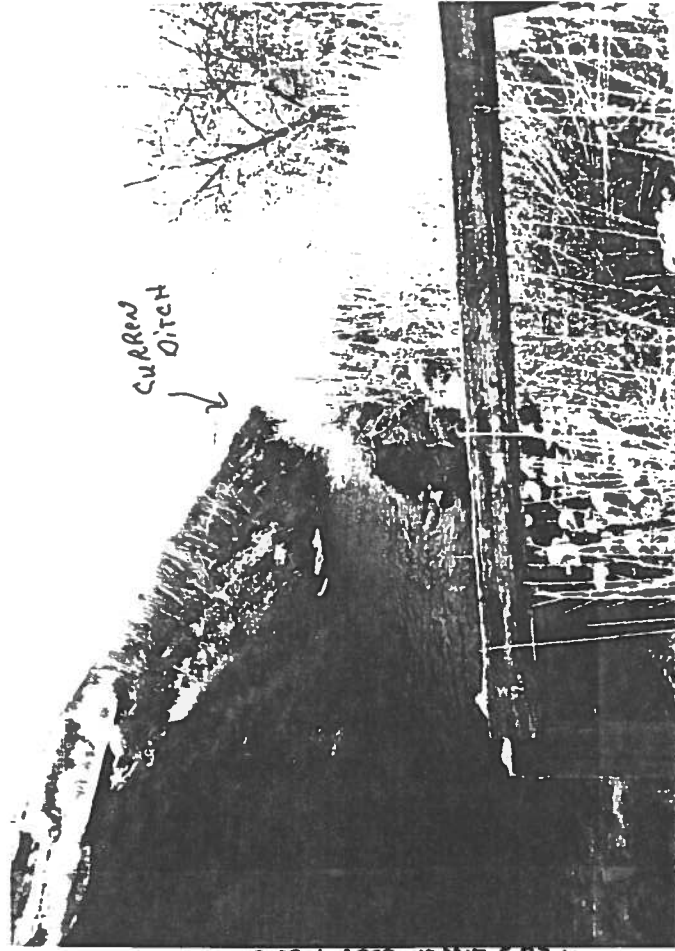
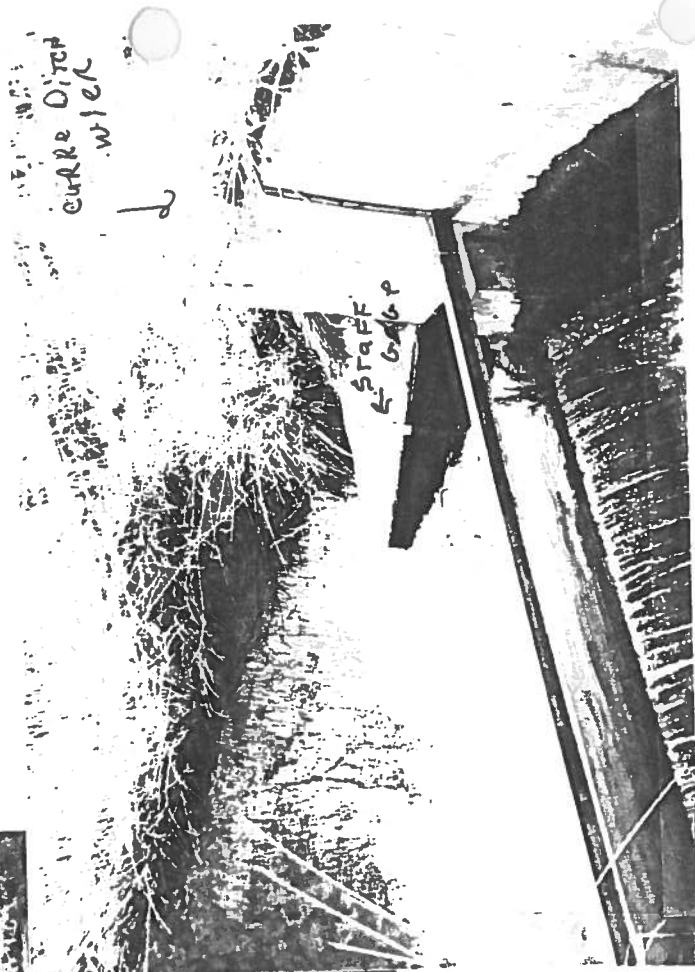
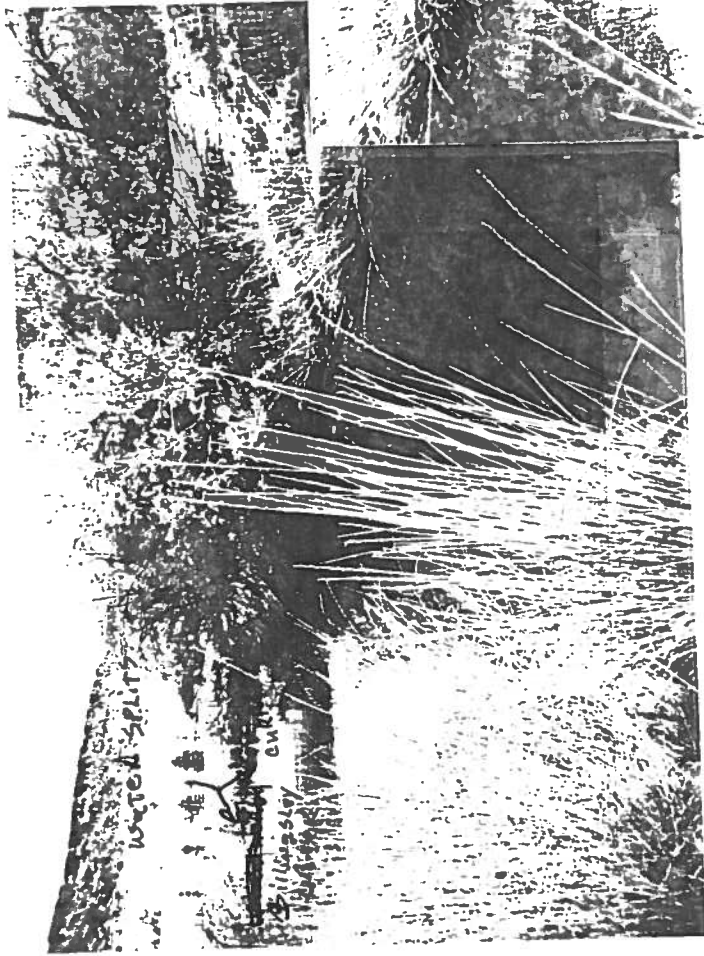
1. Rigging
in Field
Exam
36-08728



MEASUREMENT 11 (WEATHERBY P10)

THIS IS THE POINT WHERE WEATHERBY
SPRINGS EXITS THE JONES FISH HATCHERY AND IS
SENT TO THE CO-MINGLE POINT WITH THE
CURRENT DITCH.

36-08728
EXAM
IN FIELD



MEASUREMENT #12 (CURREN DITCH)

THIS THE POINT WHERE THE CURREN DITCH
SPLITS OFF FROM BILLINGSLEY CREEK AND THE
WEIR THAT MEASURES THE FLOW OF THE
CURREN DITCH.

← THIS IS A PICTURE OF THE ~~CURREN DITCH~~ CURREN DITCH
DOWN STREAM FROM THE MEASUREMENT #2
WEIR.

Original
in Field
Exam
36-08728

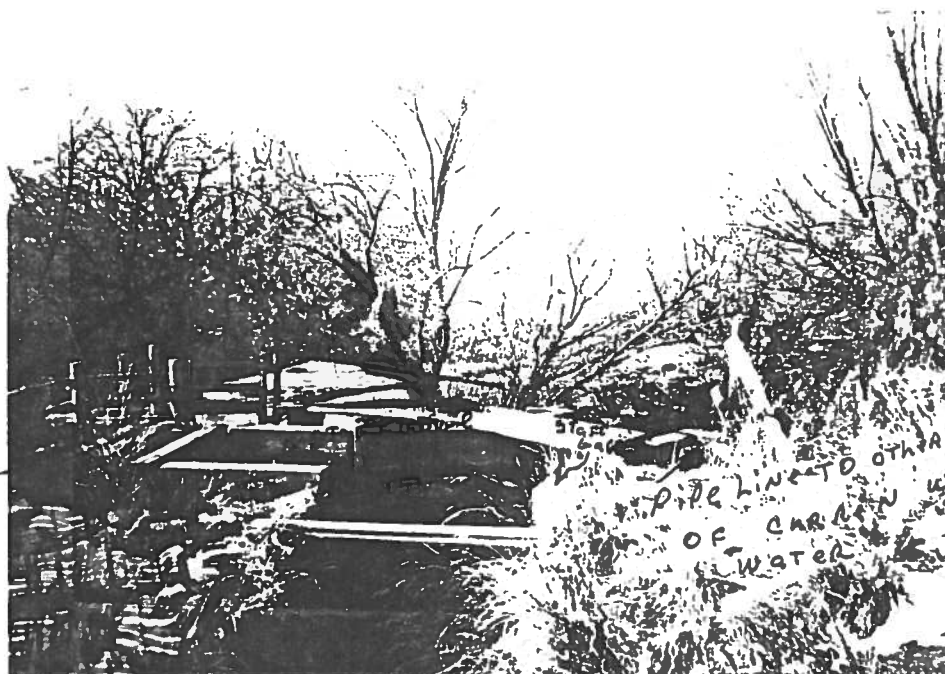


This The point where wheatheaby water co-mingles
with the CURREN DITCH



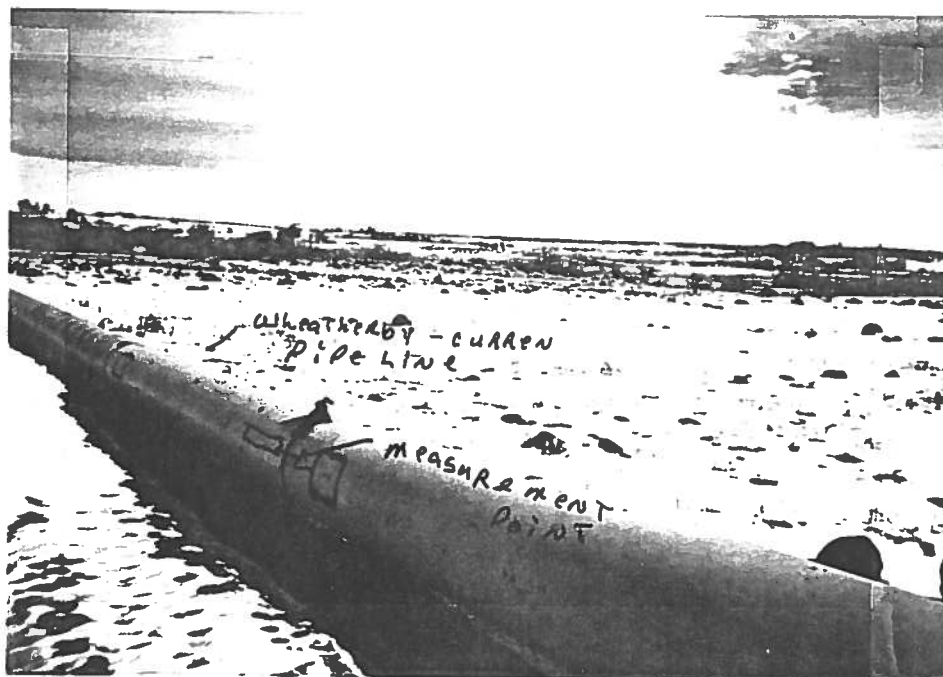
This shows the 2 Pipe OUTLETS OF THE
Wheatheaby water.

IN FIELD
EXAM
36-08728



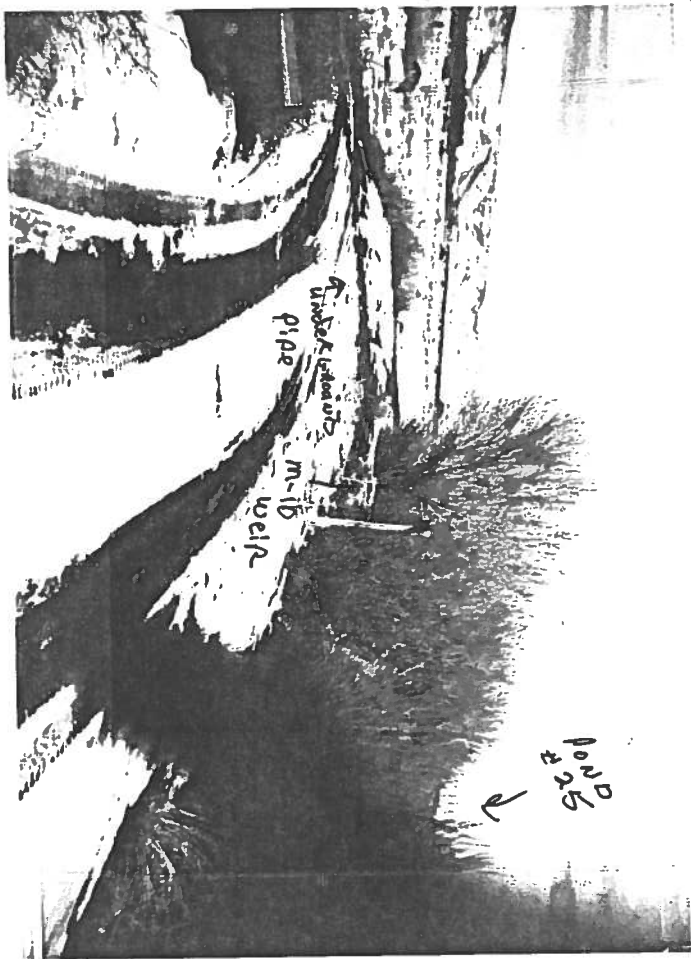
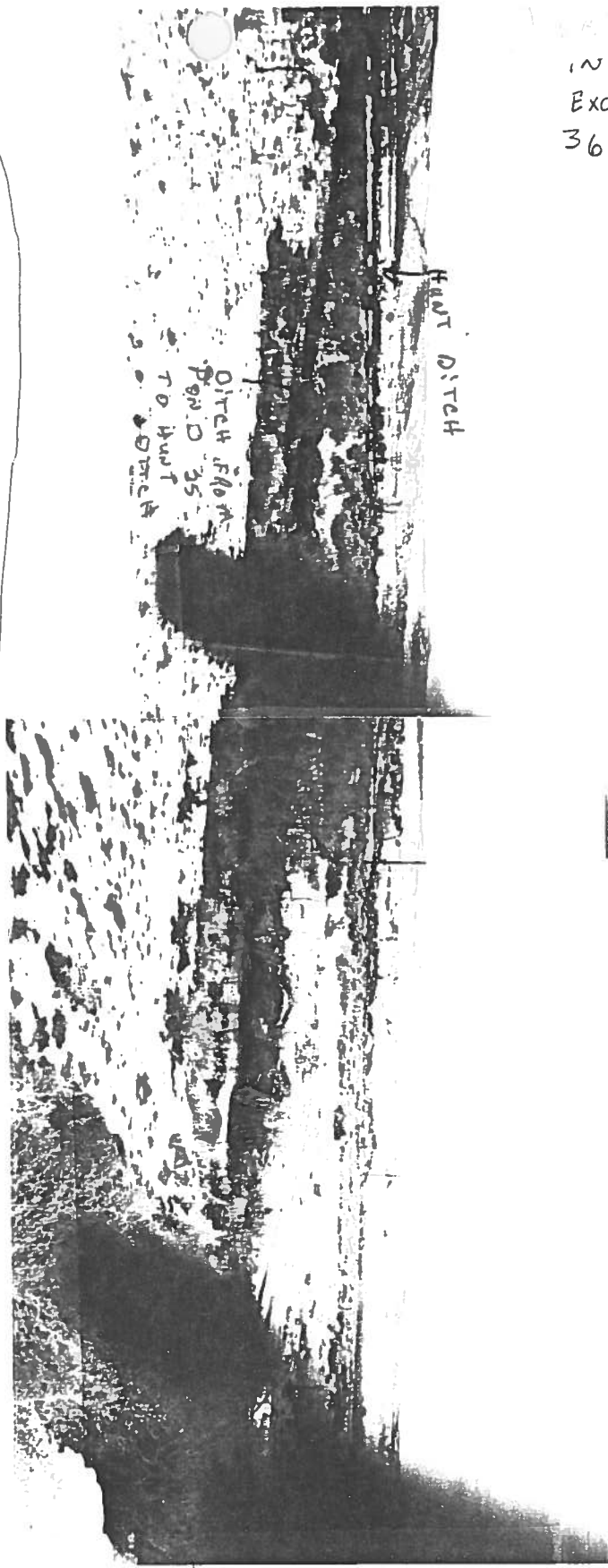
Weatherby -
CURRENT WATER
ENTERS Buckeye's
Weatherby - Curren
Pipeline.

MEASUREMENT POINT 13. Weatherby - Curren DITCH SPLIT.
The water at this point is split between Buckeye Farms
and other users. Both weirs have a staff gage



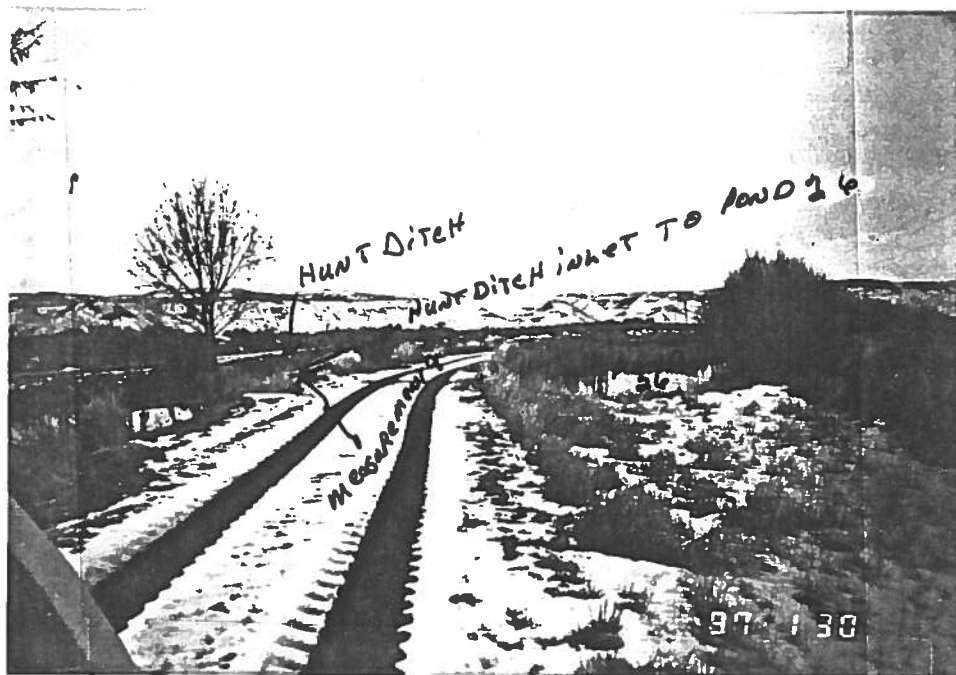
MEASUREMENT POINT 14. (Weatherby - Curren Pipeline)
This is the point I measured the Weatherby - Curren
Pipe Line.

IN FIELD
EXAM
36-08728



MEASUREMENT #10
MEASUREMENT WAS TAKEN AT
THE WEIR AT THE EXIT OF POND
25.

IN FIELD
EXAM
36-08728



DITCH FROM
POND 24

THIS IS MEASUREMENT #9 WHERE THE HUNT
DITCH EMPTIES INTO POND #26 ~~AND~~ AND COMINGLES
WITH WATER FROM POND 24'S DITCH.



THIS MEASUREMENT #8.
THIS IS WHERE THE WATER FROM M-9 (HUNT DITCH)
AND WEAHABY-CURREN WATER (DITCH FROM POND 24) DISCHARGE
INTO THE HUNT DITCH.

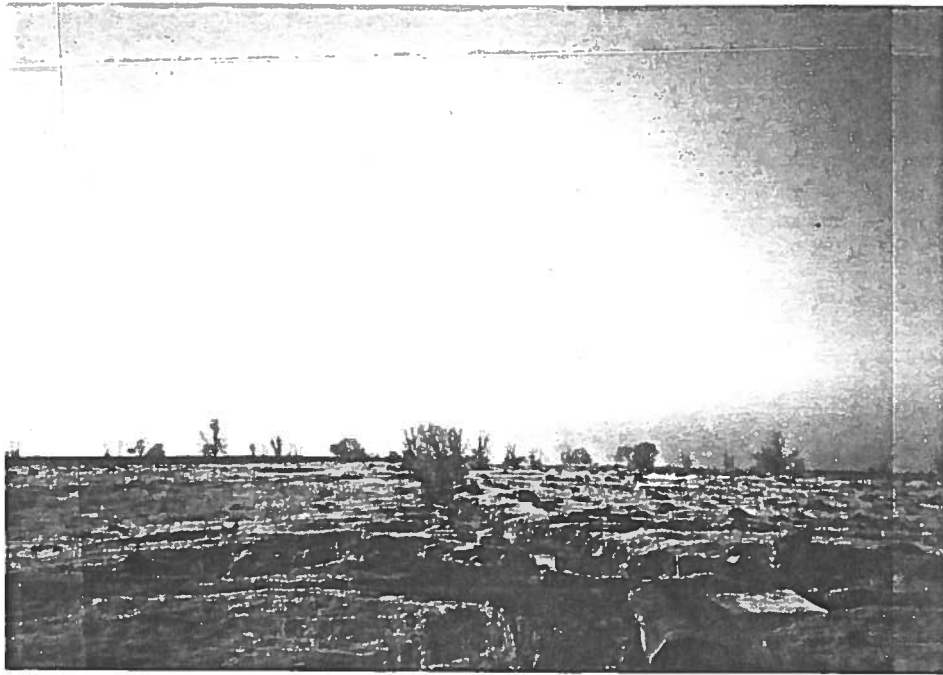


MEASUREMENT #3

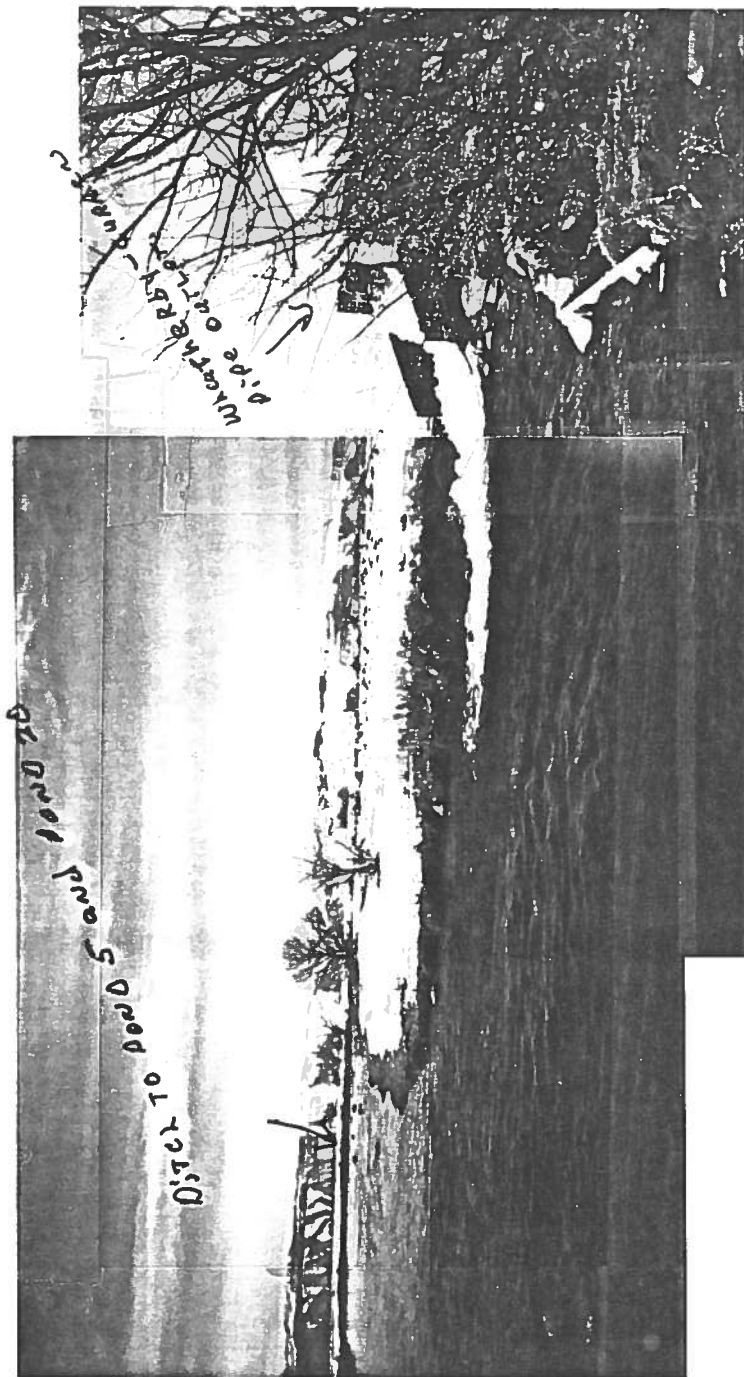
THIS IS THE OUTLET FROM POND #39 TO THE SNAKE RIVER.

IN FIELD
EXAM
36-08728

Original
in Field
Exam
36-08728



DITCH FROM wheatherby/curren pipeline outlet
TO POND #2



This is the outlet point of the Weatherby-Curran Pipeline.
 It empties into an open ditch that carries water to Pond 5 and Pond 20.

EXAM
 36-08728

Original
in Field
EXAM
36-08728

POND #2

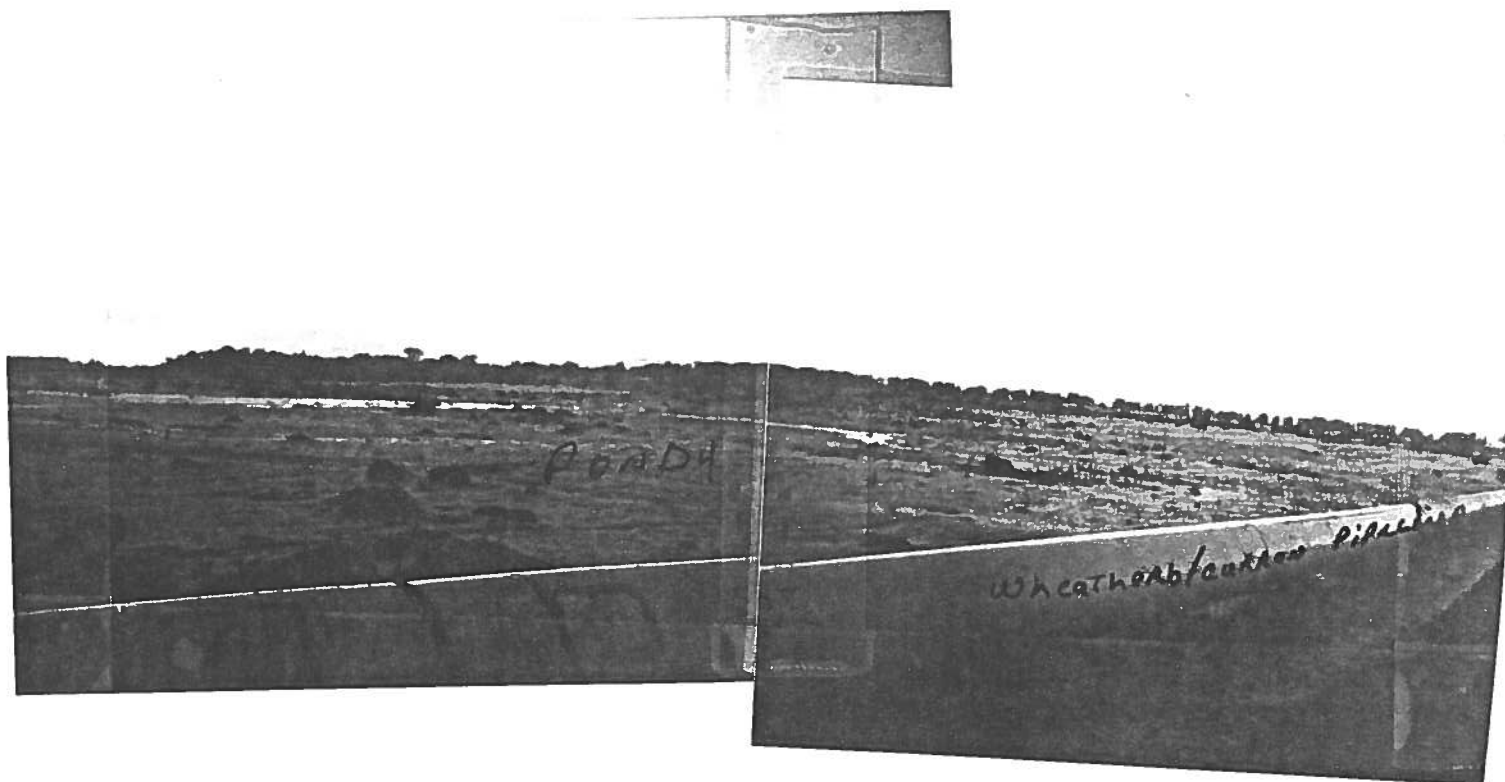
POND #2

POND #2. They HAD ALREADY BEEN OAYING IT UP
AT THE TIME OF THE DISCOVERY.

Original
in Field
Exam
36-08728

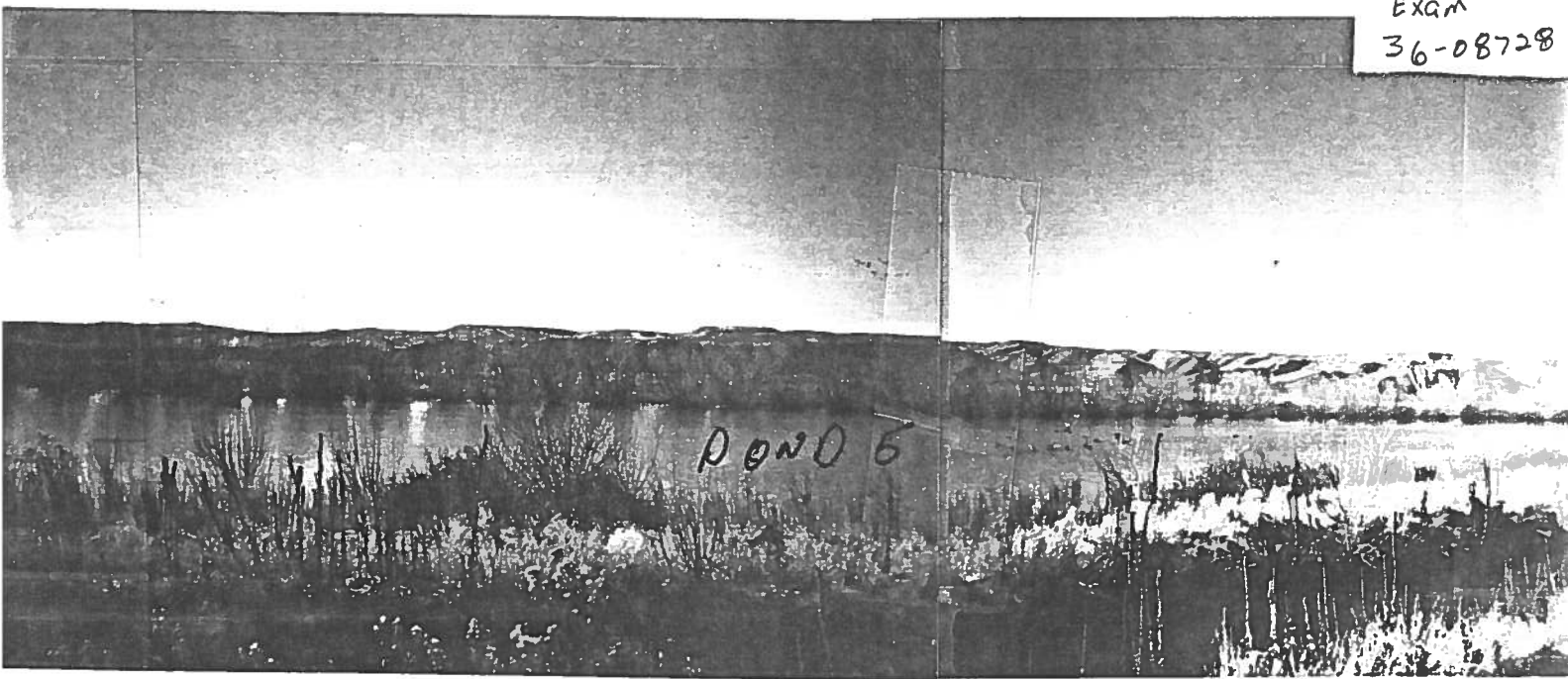


POND #3



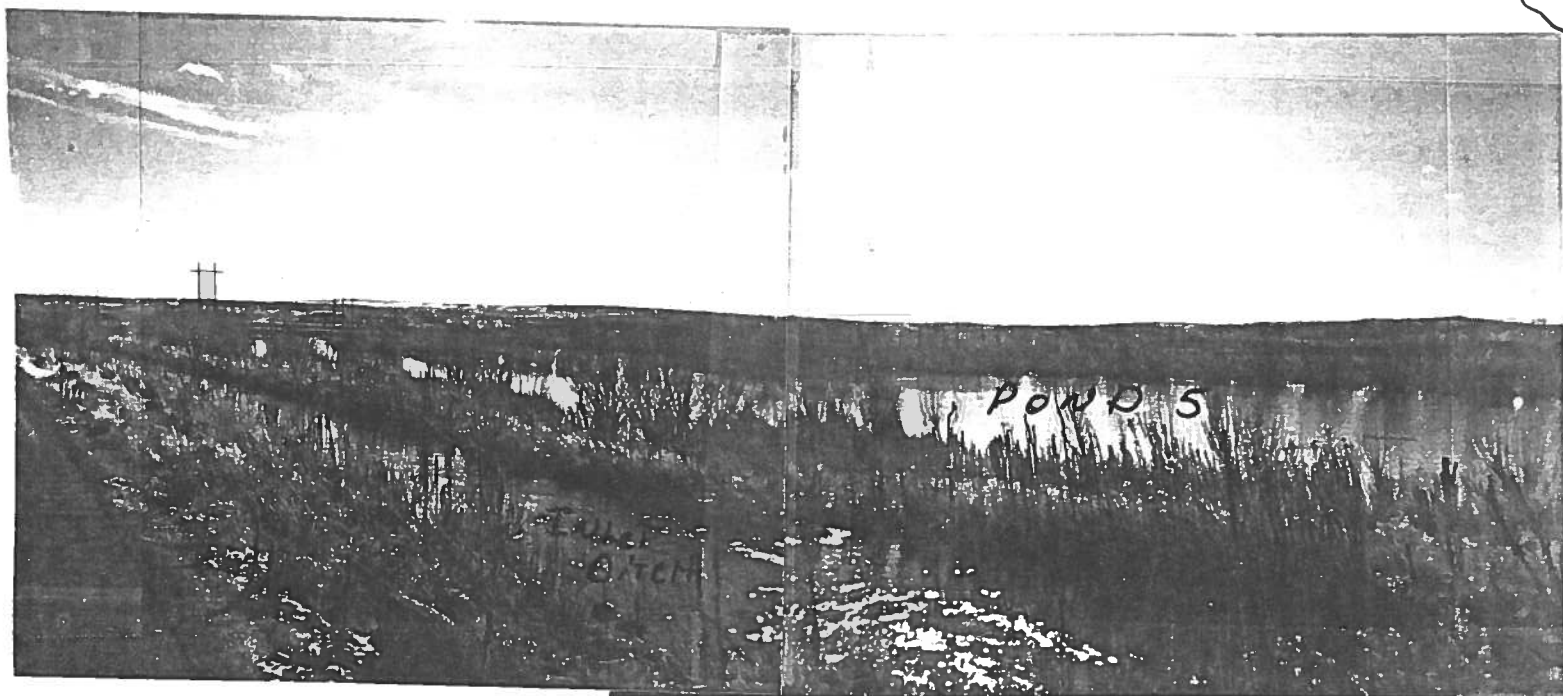
POND #4

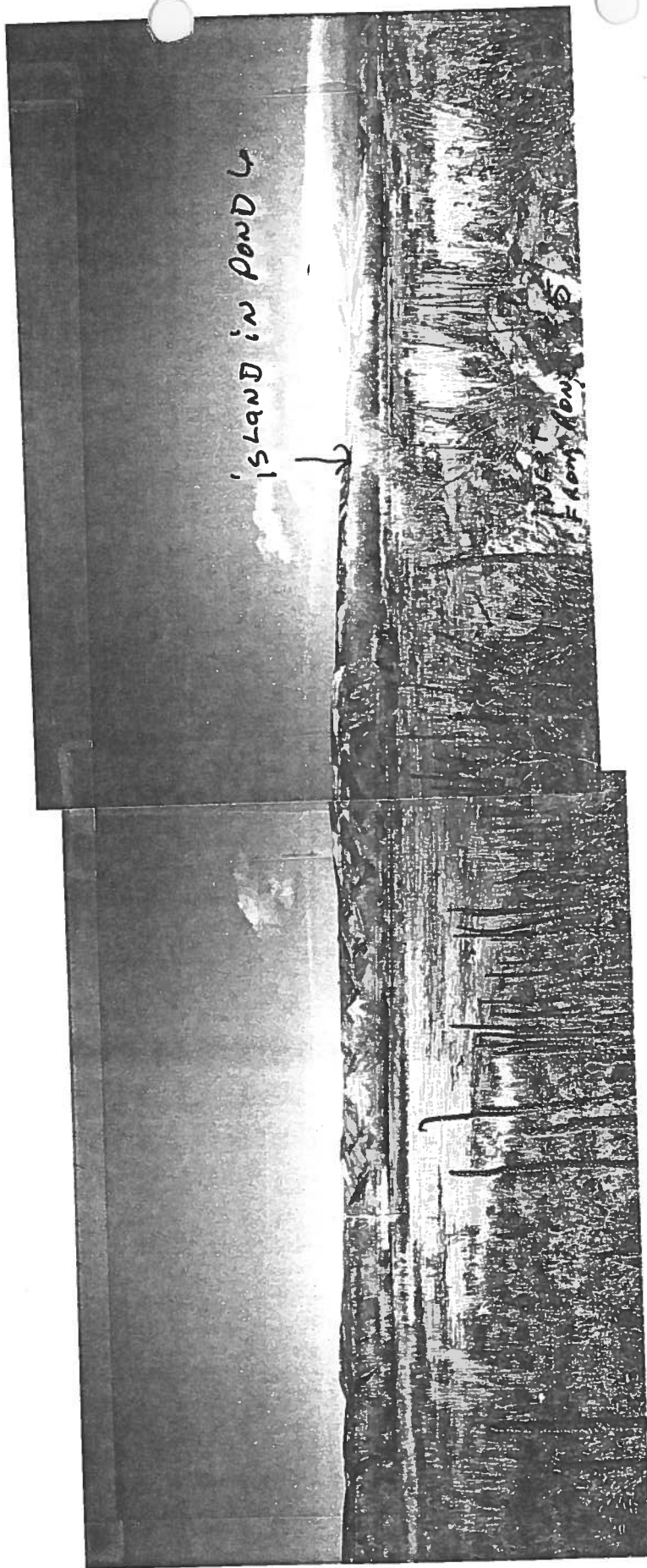
Original
in Field
Exam
36-08728



This is POND 5

Please Notice The INLET Ditch
That ~~comes~~ originates at the OUTLET
OF THE WHEATBODY/CURRENT PIPELINE

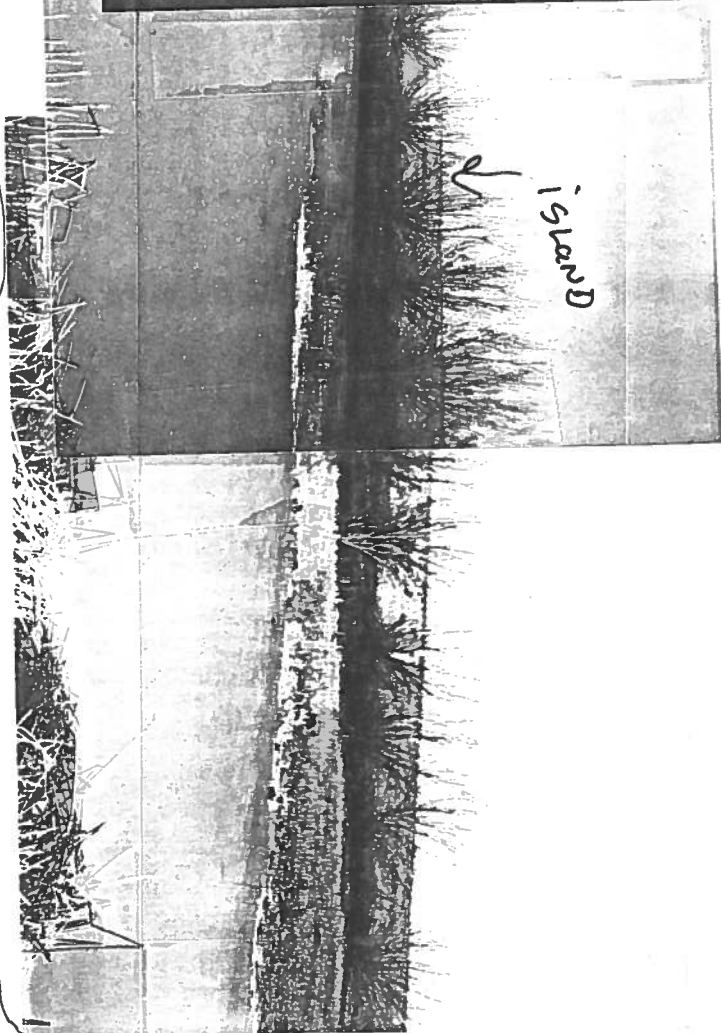




This is The East Side of Pond #6

Original
in Field
Exam
36-08728

Original
in Field
Exam
36-08728

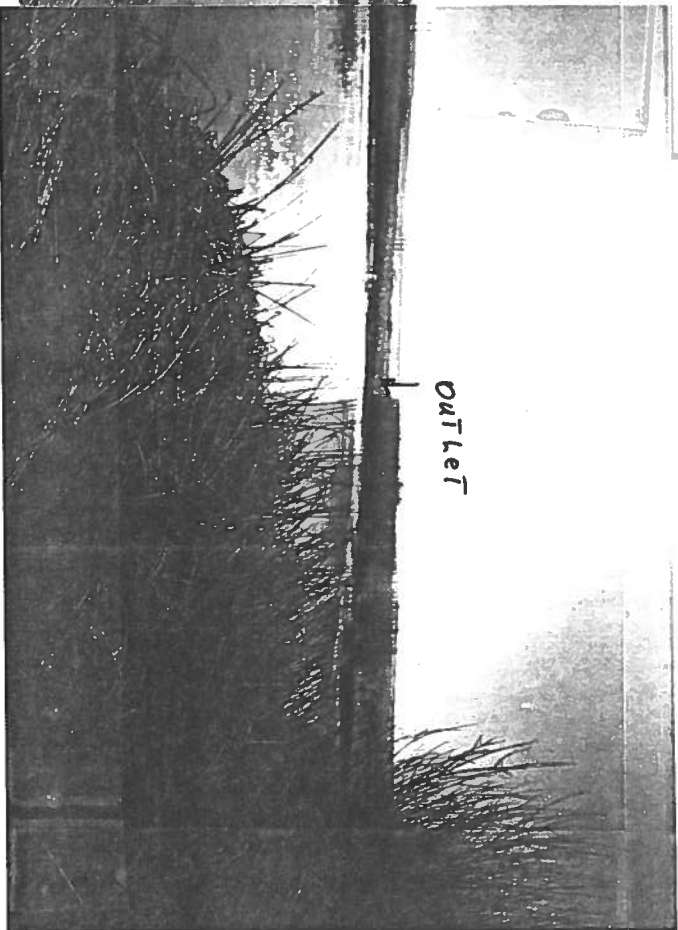
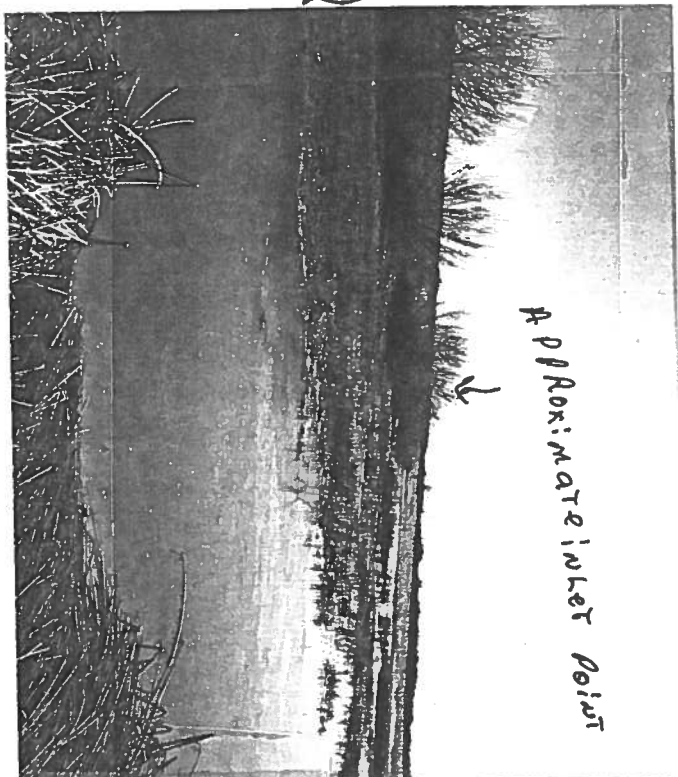


island

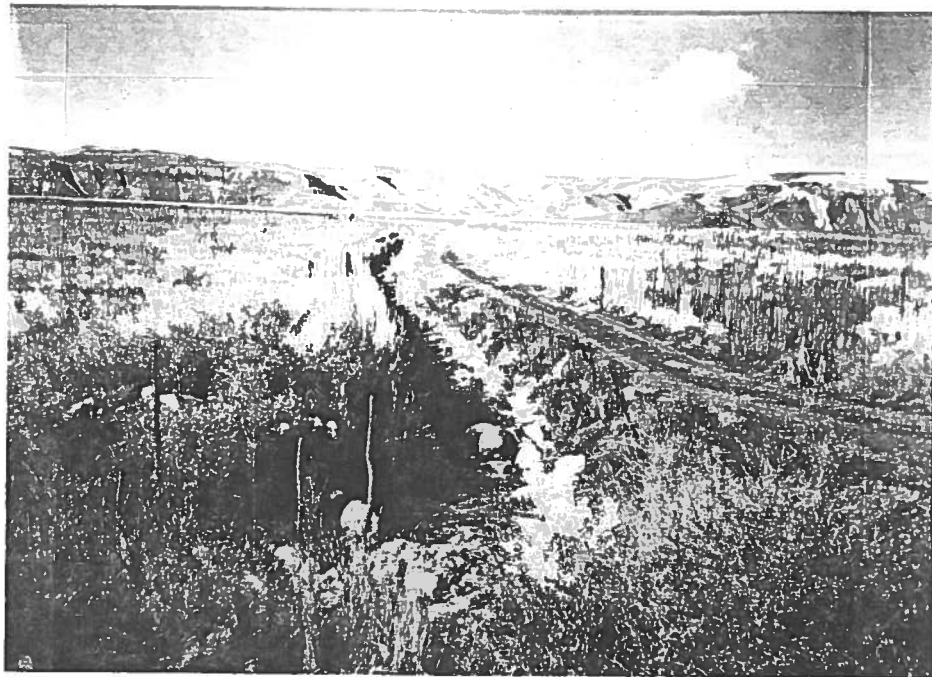
This is the west side of pond 6.

Approximate inlet point

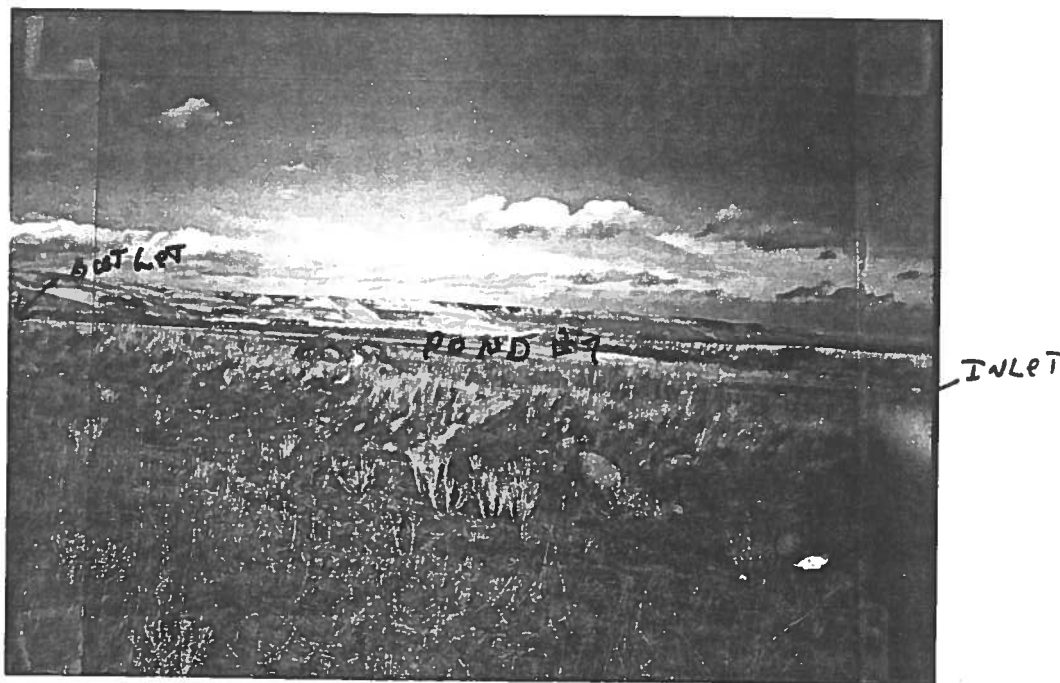
outlet



Original
in Field
Exam
36-08728

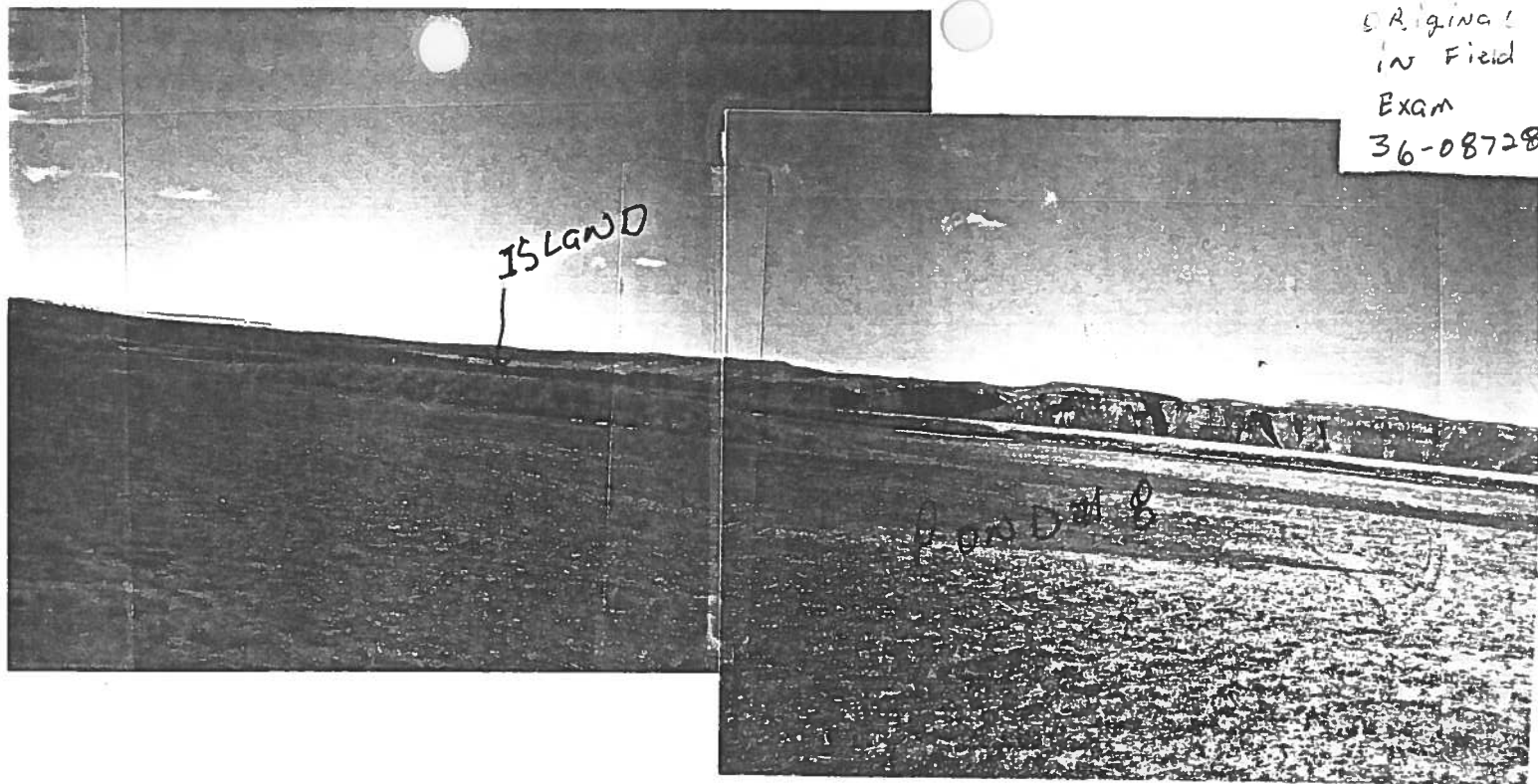


DITCH FROM POND #6 TO
POND # 7

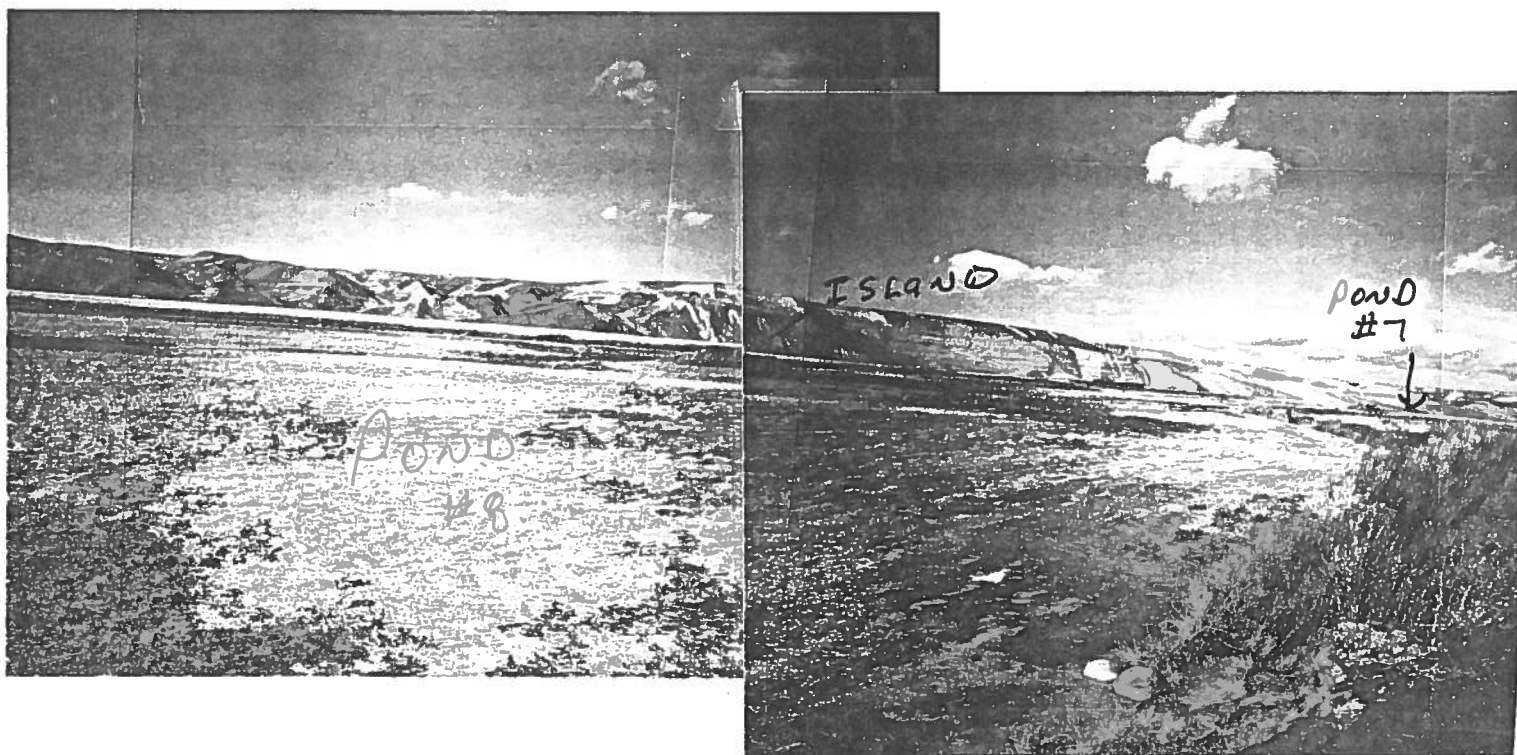


POND #7

Original
in Field
Exam
36-08728

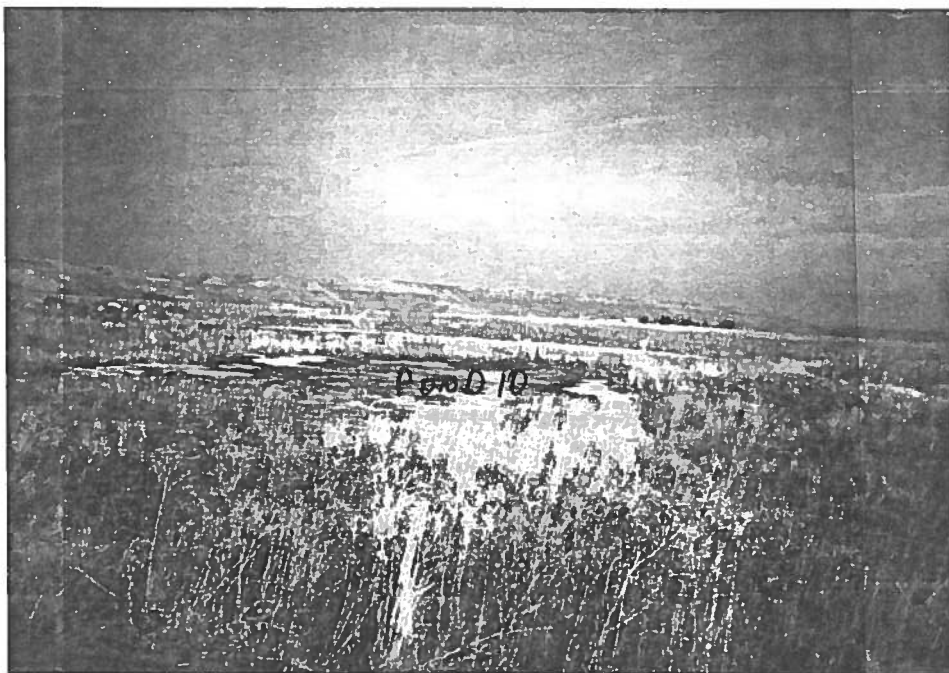


POND #8





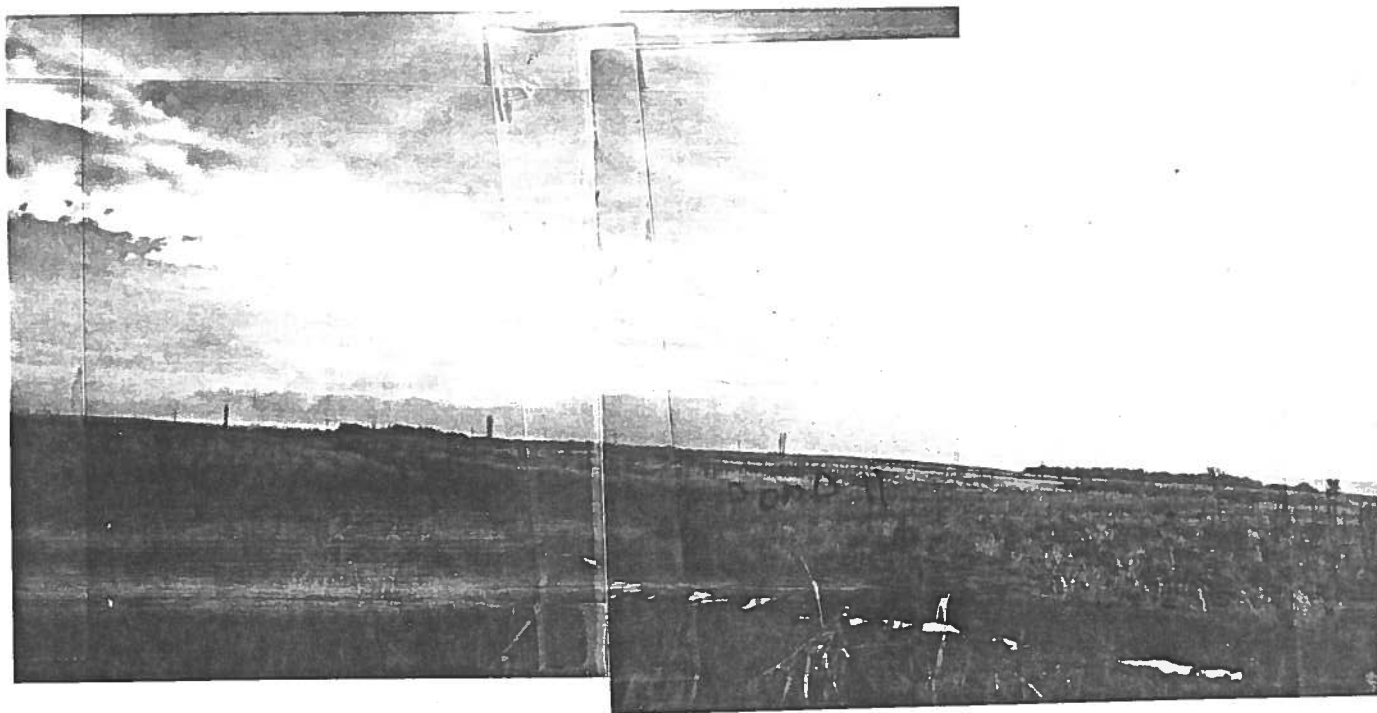
POND #9



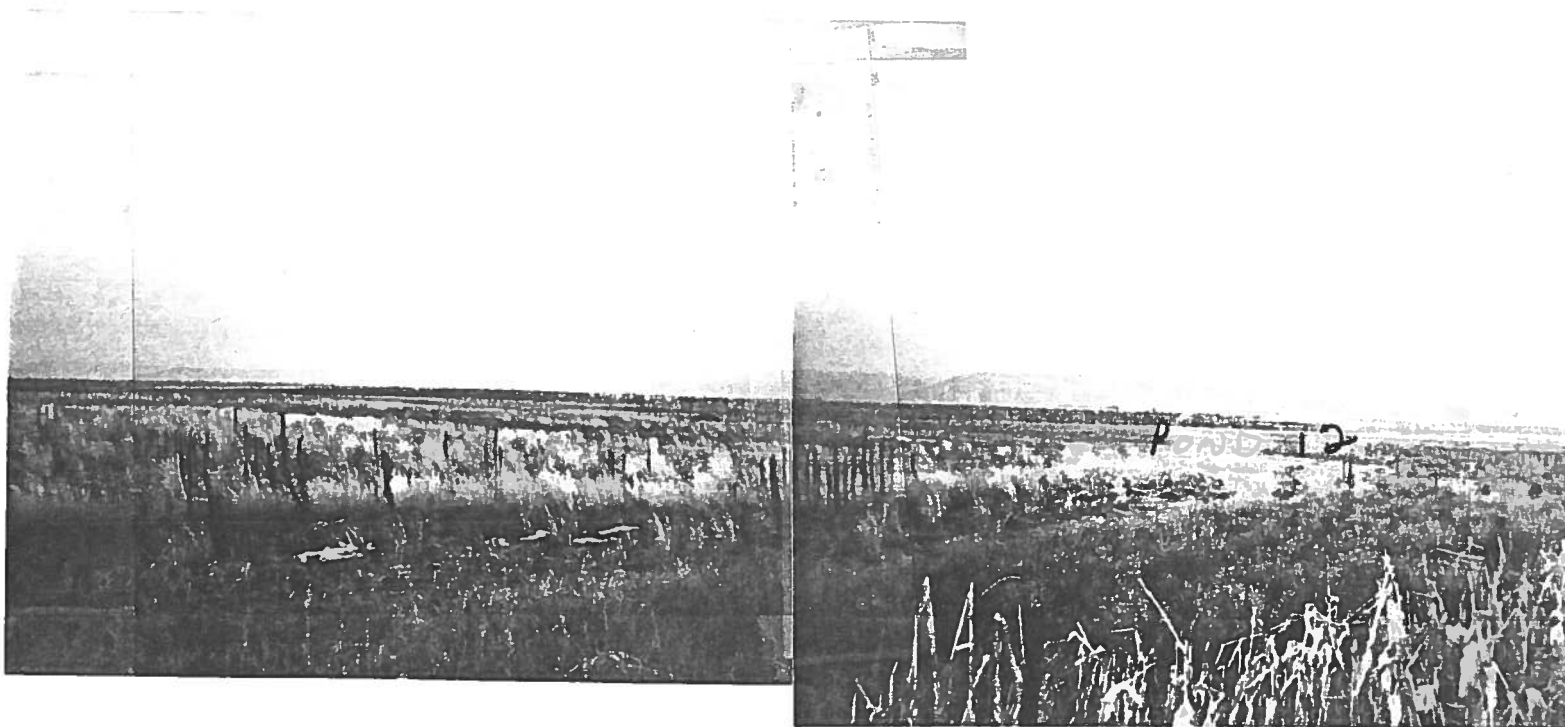
POND #10

36-08728
Exam
in field
C. A. G. M. I.

Orig. in Field
Exam
36-08728



POND #11



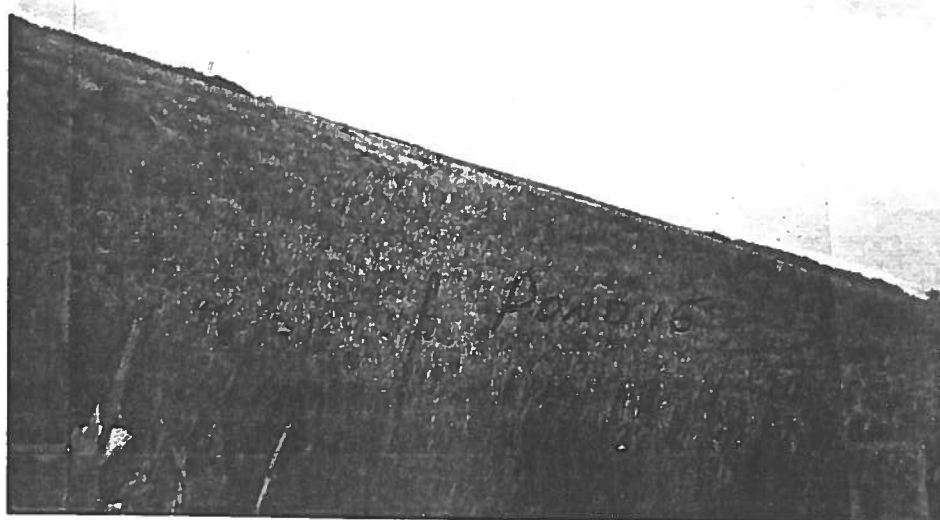
POND #12

Original
in Field
Exam
36-08728

These willows are around
POND #6



POND 13



POND 15

CRIGING
IN FIELD
EXAM
36-08728



POND 16

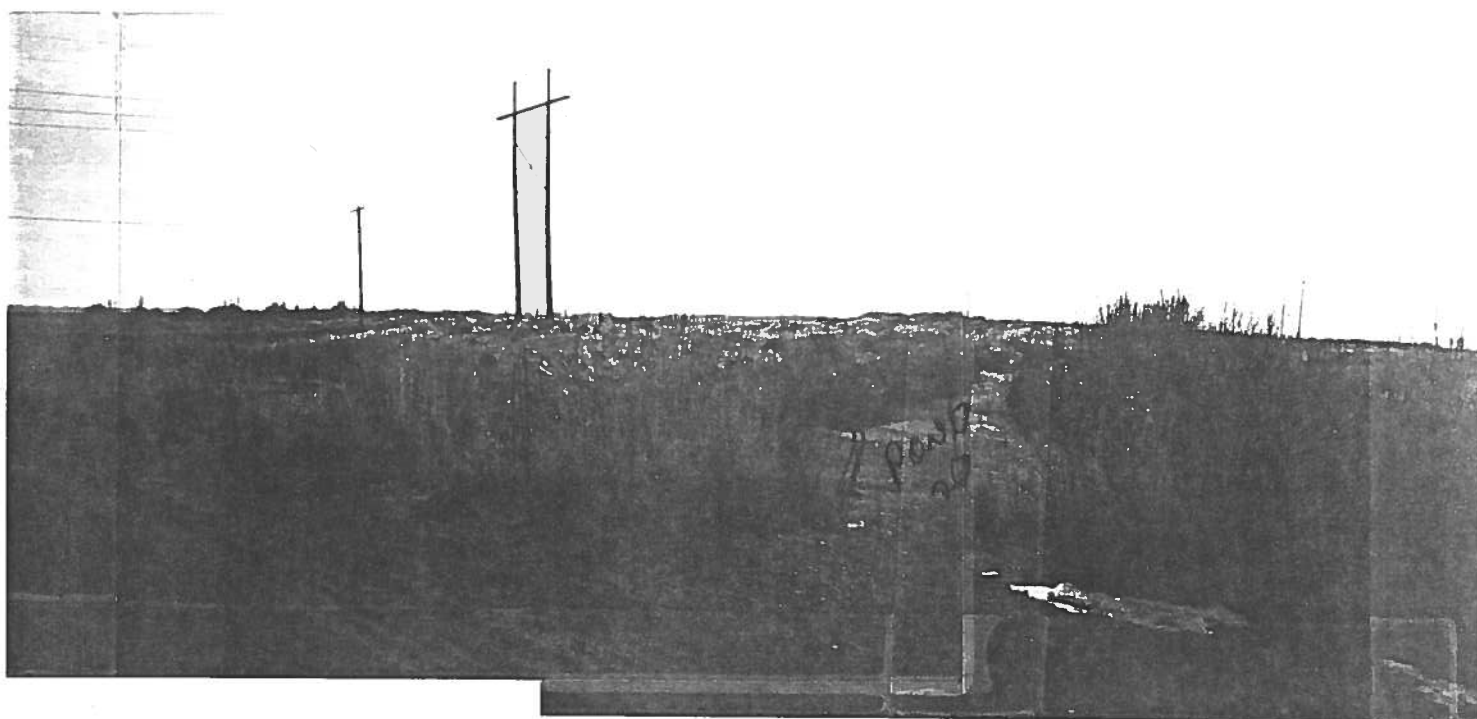


POND 17

ORIGINAL
IN FIELD
EXAM
36-08728

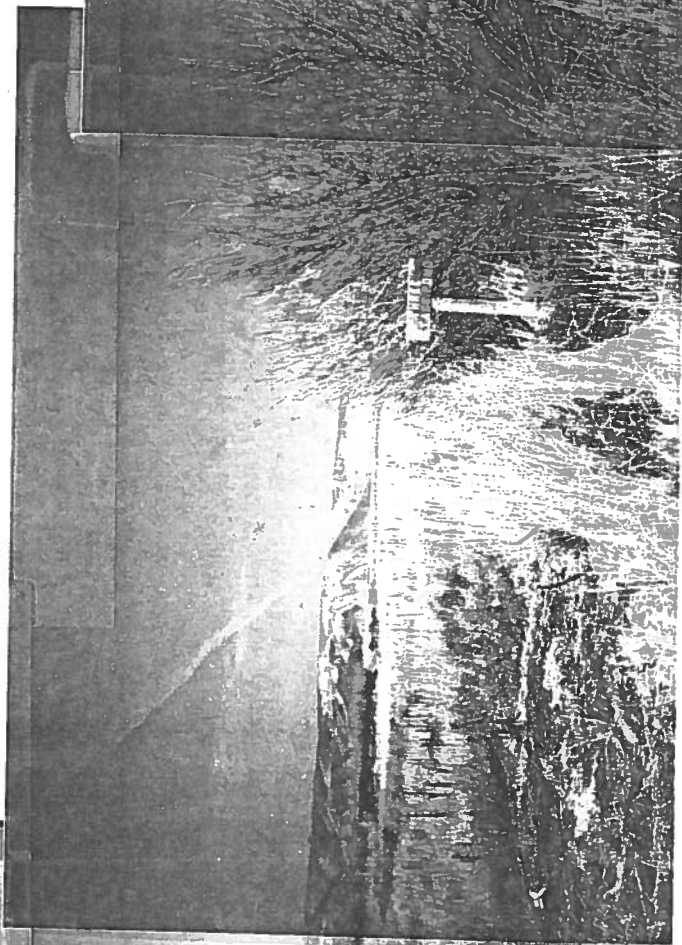
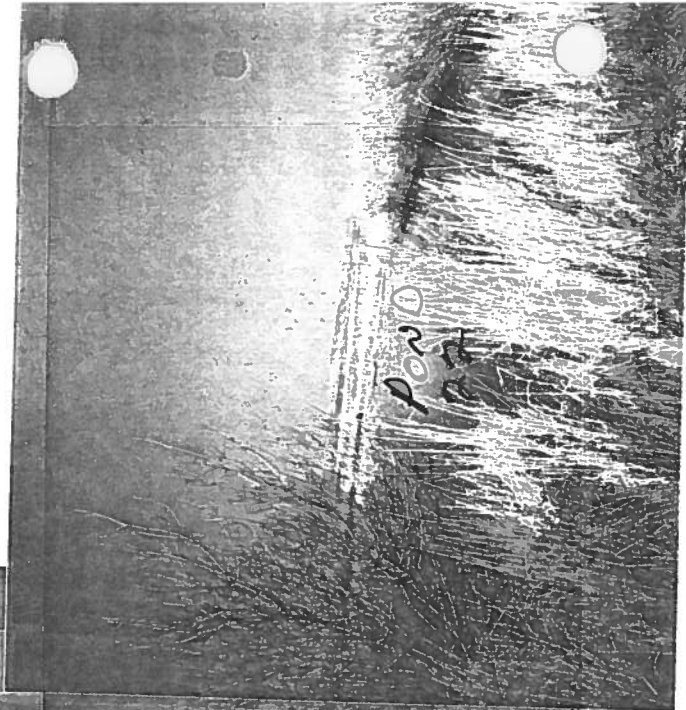


POND #19



POND #20

LA 91401
IN Field
EXAM
36-08728

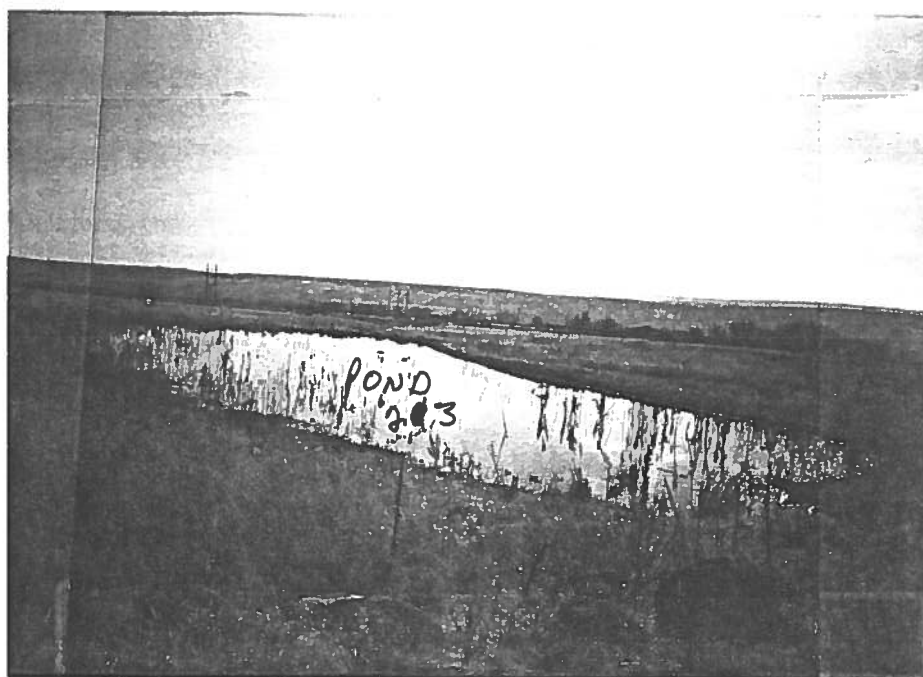


POND 22

ORIGINAL
IN FIELD
EXAM
36-08728

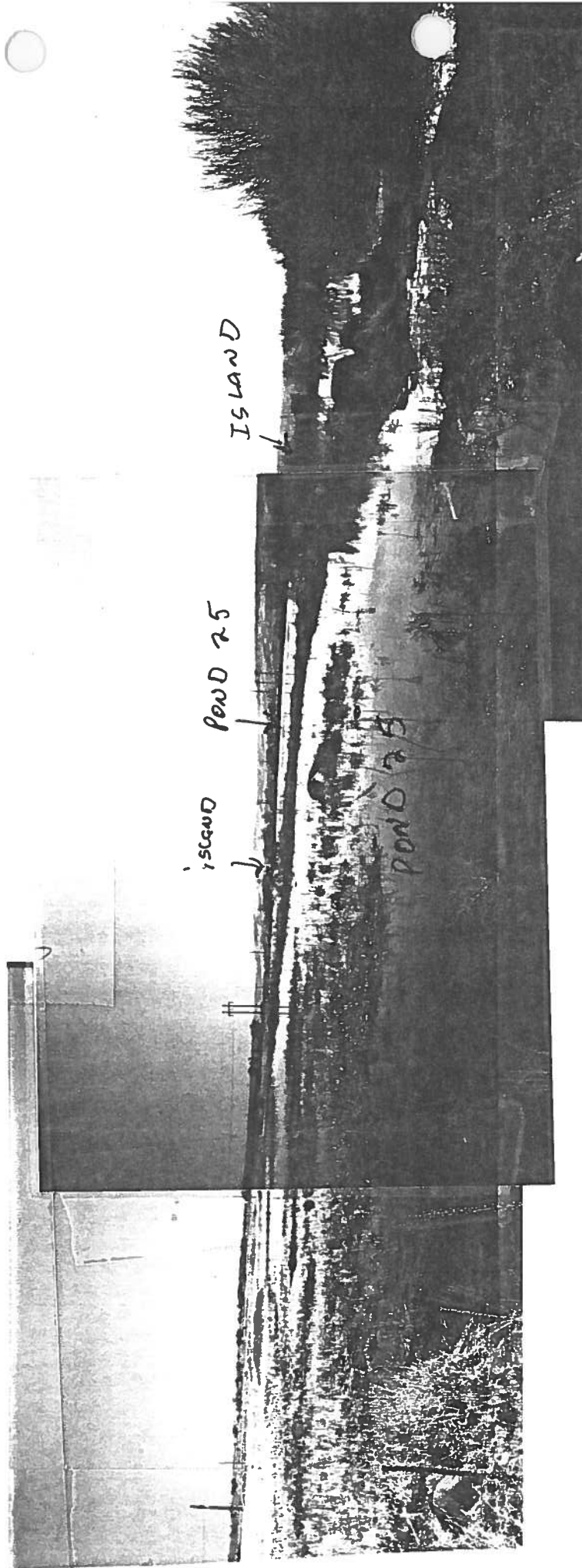


POND 24



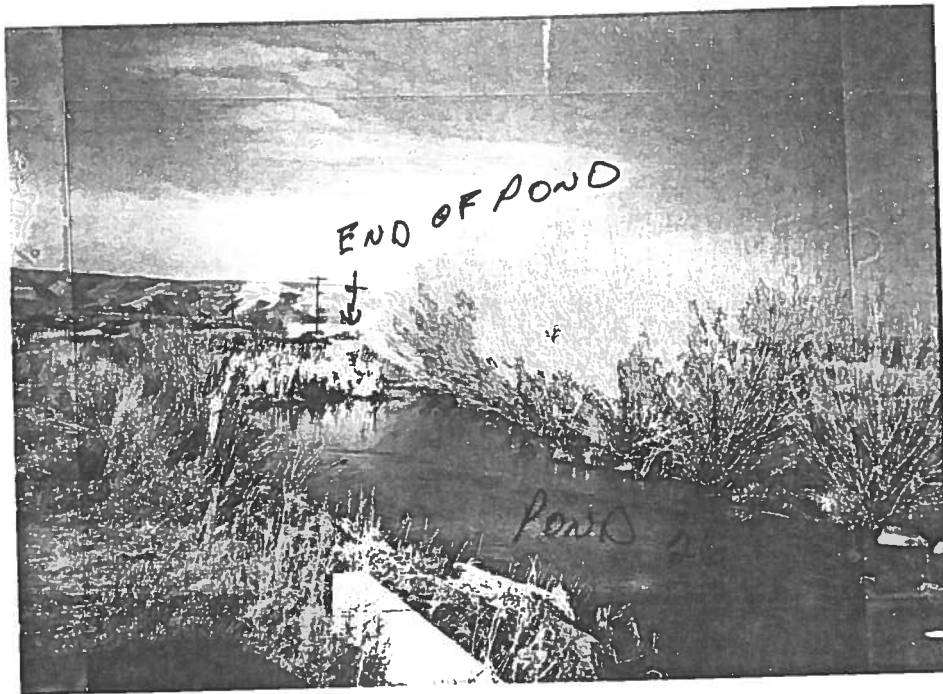
POND 23

ORIGINAL
IN FIELD
EXAM
36-08728

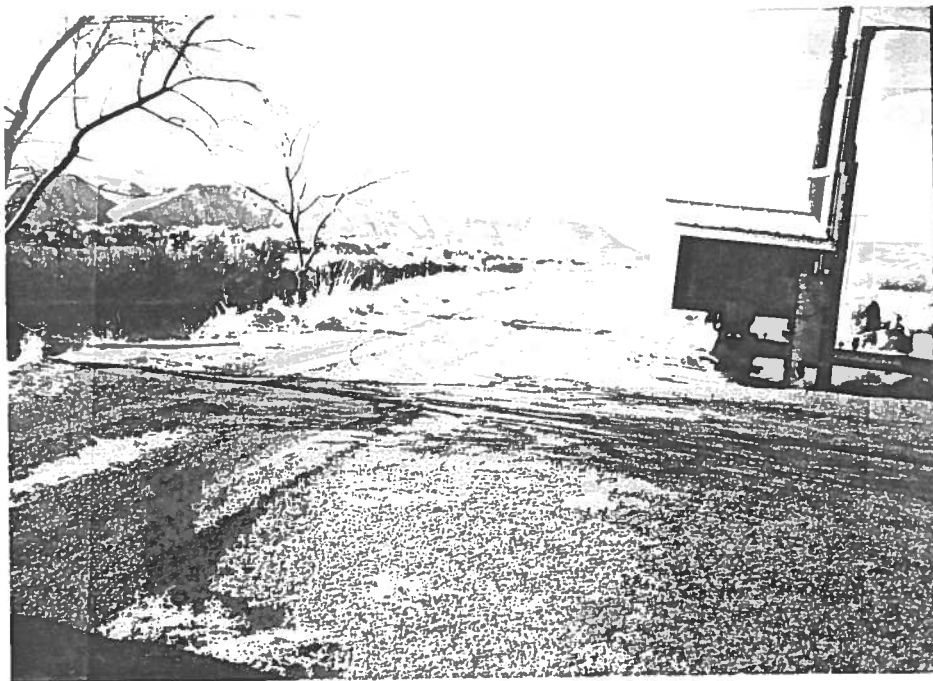


POND 25

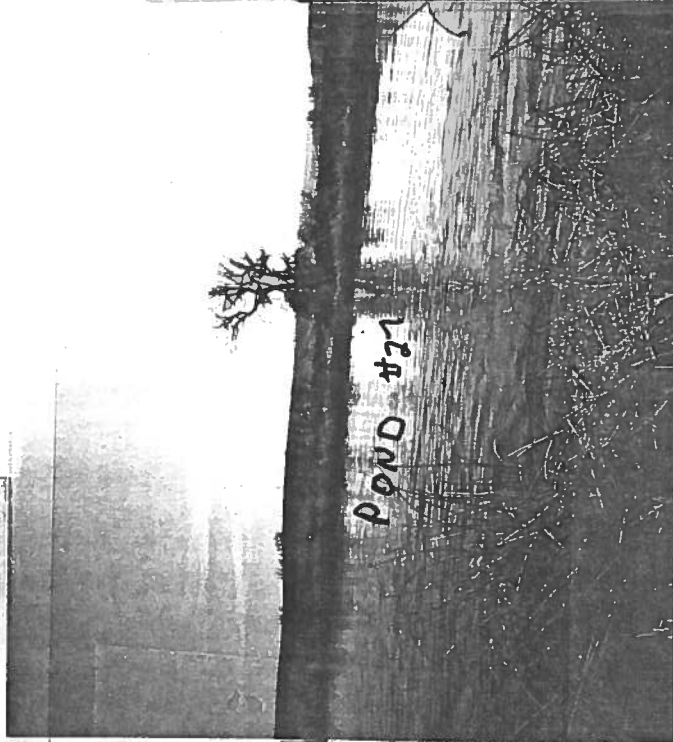
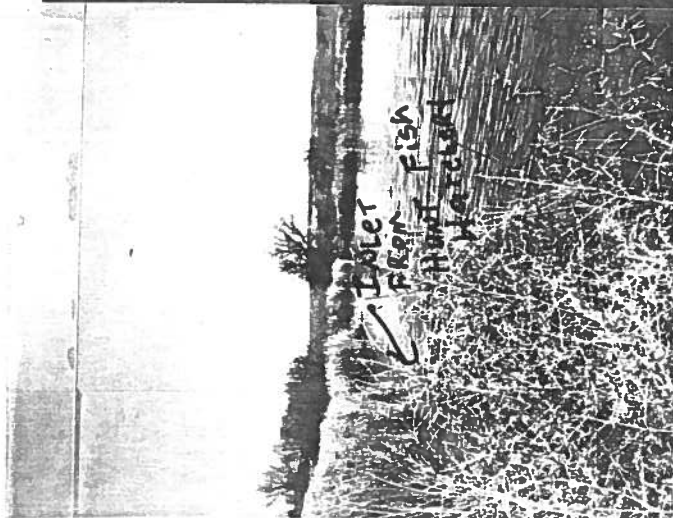
CRIGING
IN Field
EXAM
36-08728



POND 26



HUNT DITCH IRRIGATION PGM P



POND 27

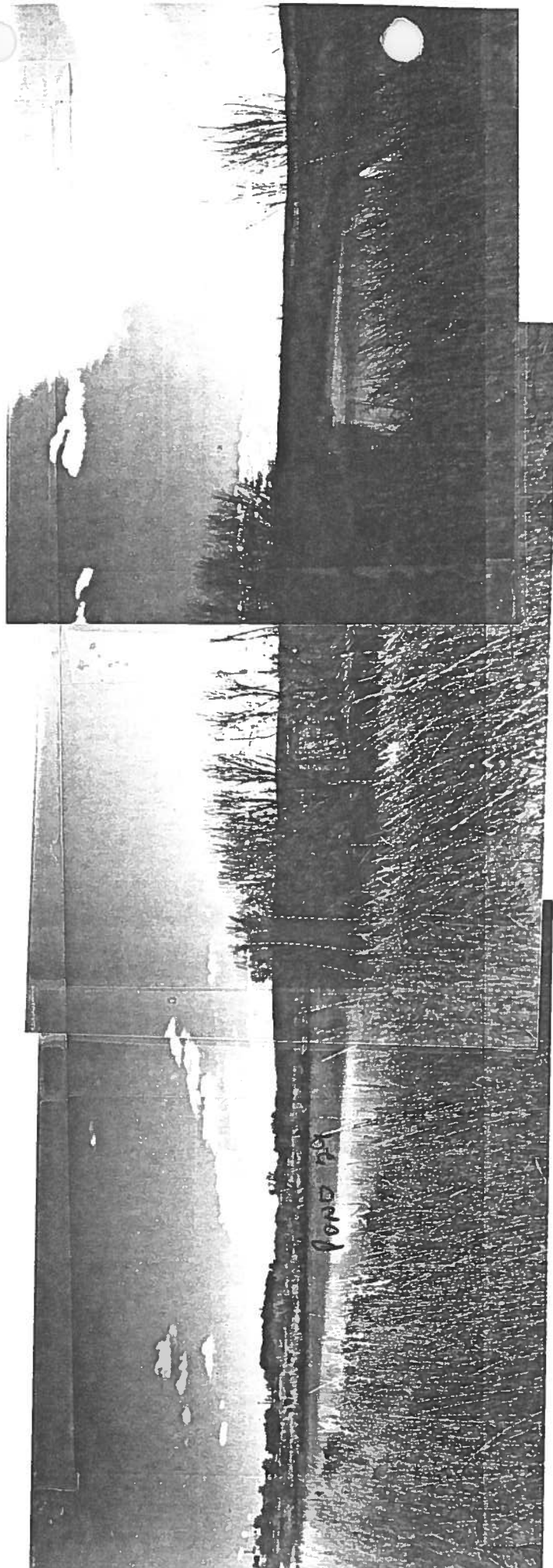
The OUTLET OF THE HUNT FISH HATCHERY RUNS INTO POND 27 (shown)
FROM POND 27 THE WATER CAN EXIT INTO POND 28 AND OUT
TO HUNT DITCH, WHICH CONTINUES ON TO HUNT/BUCKEY

Fish Hatchery

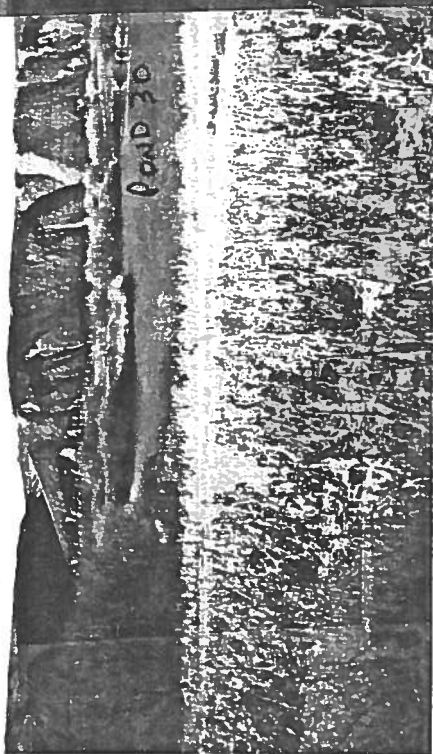
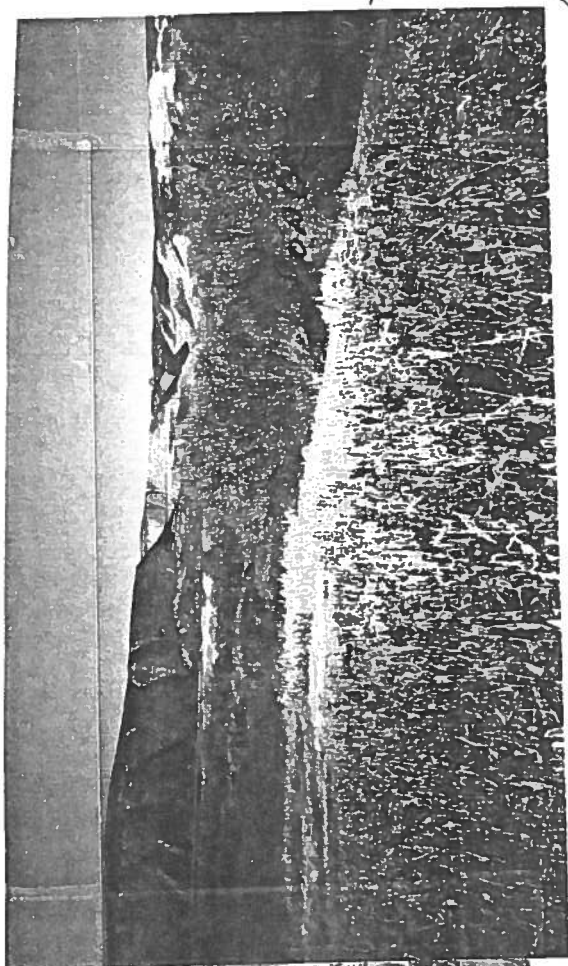
CR. GING!
IN Field
EXAM
36-08728

ORIGINAL
IN Field
EXAM
36-08728

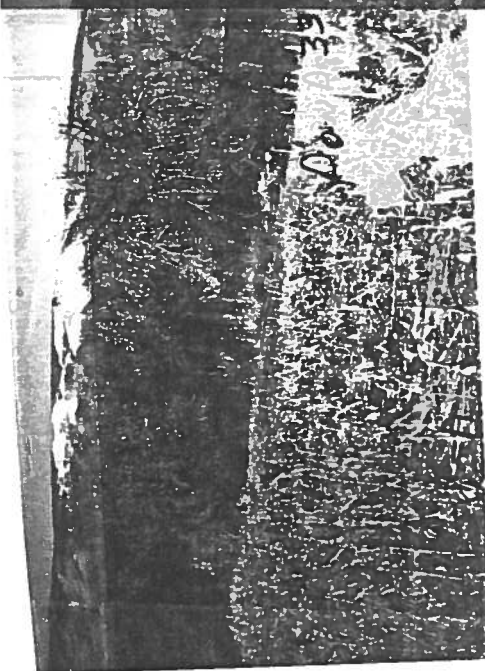
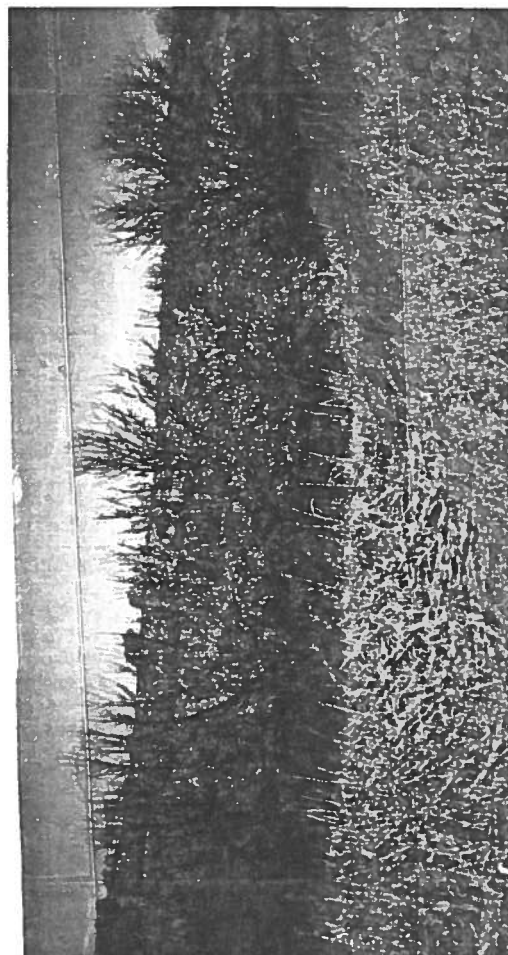
POND #29



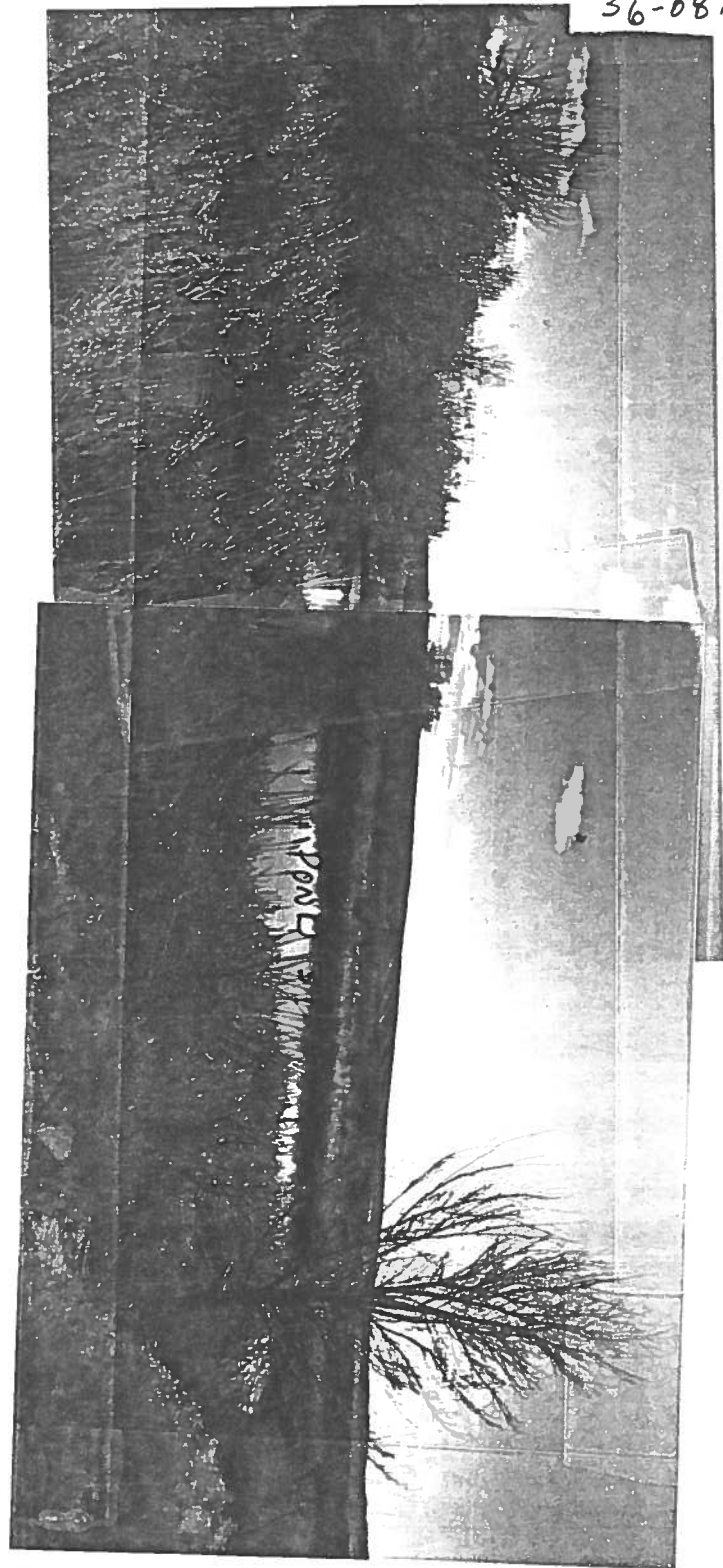
Original
in Field
Exam
36-08728



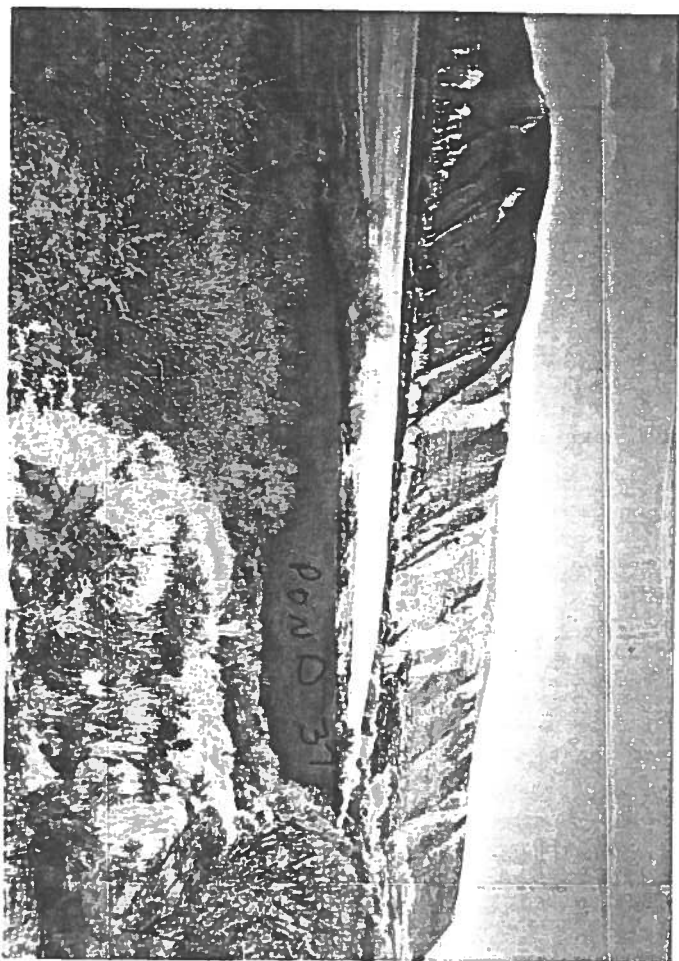
POND 30 : 33



Original
in Field
Exam
36-08728



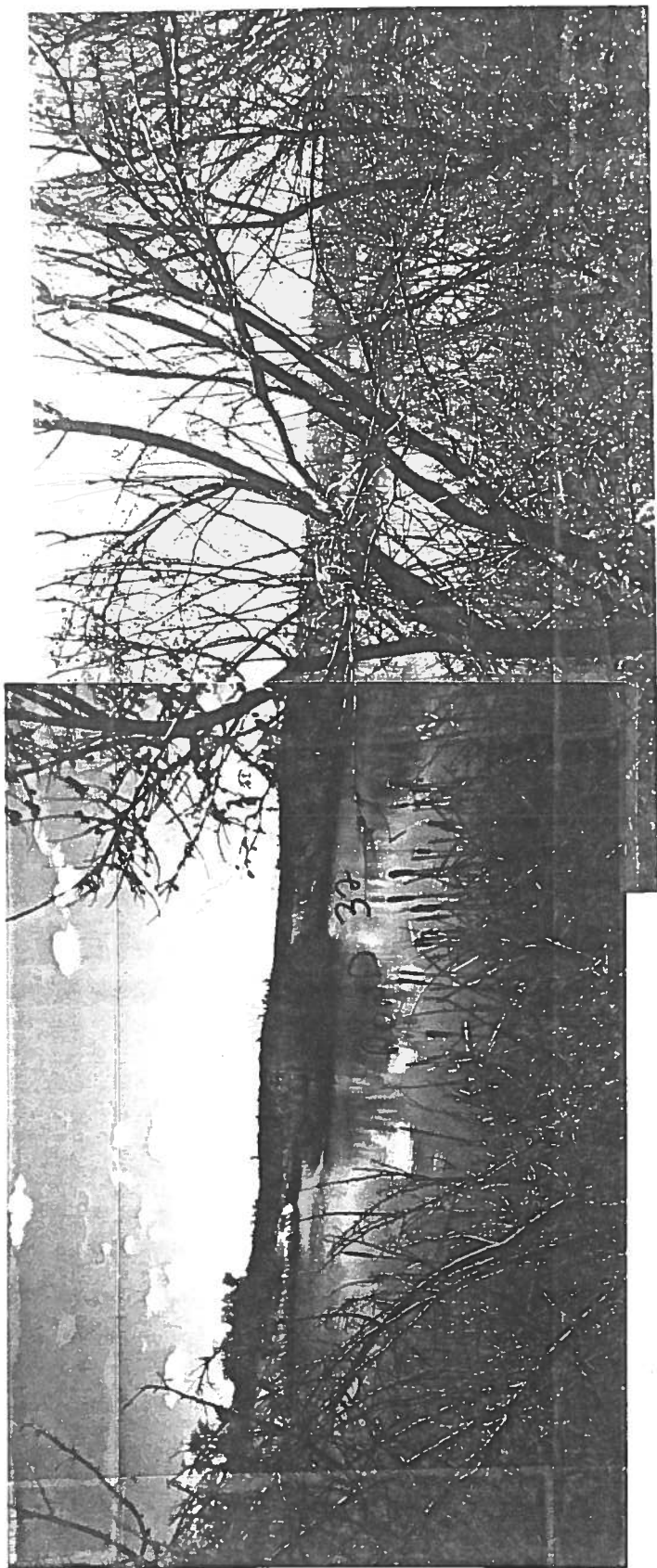
POND
31



POND 37

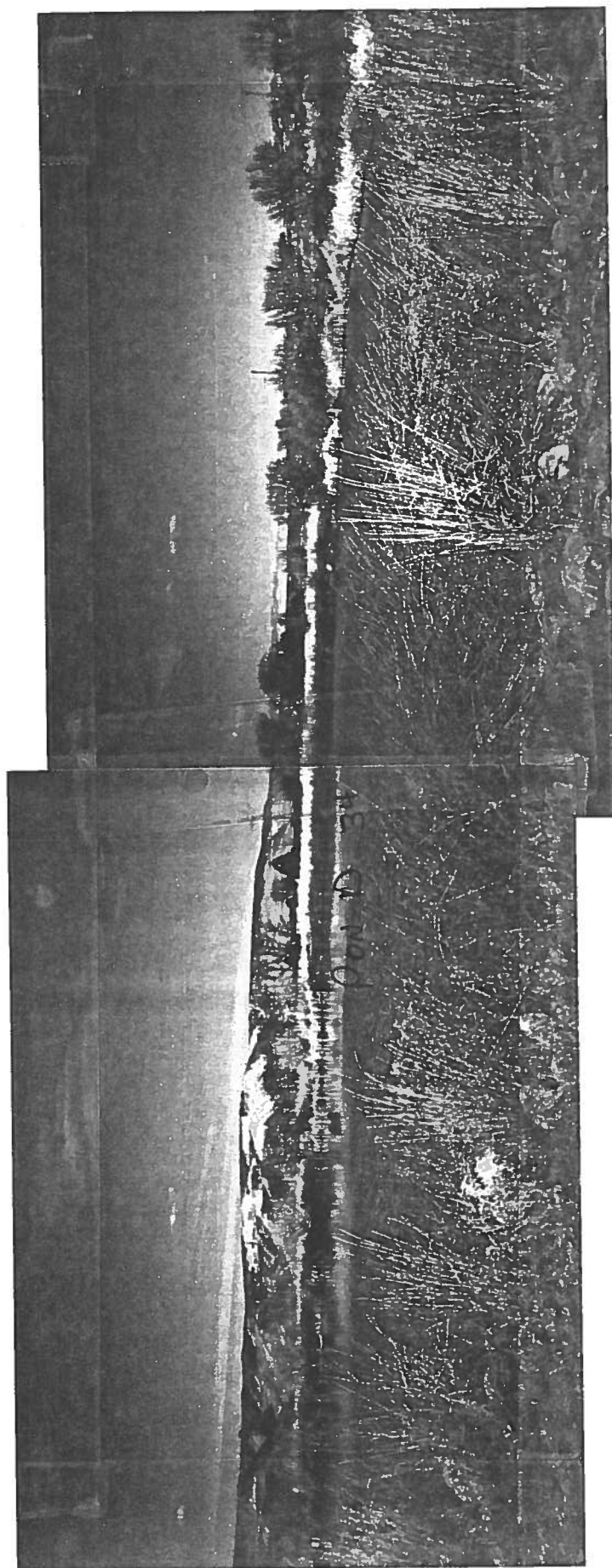
POND

32



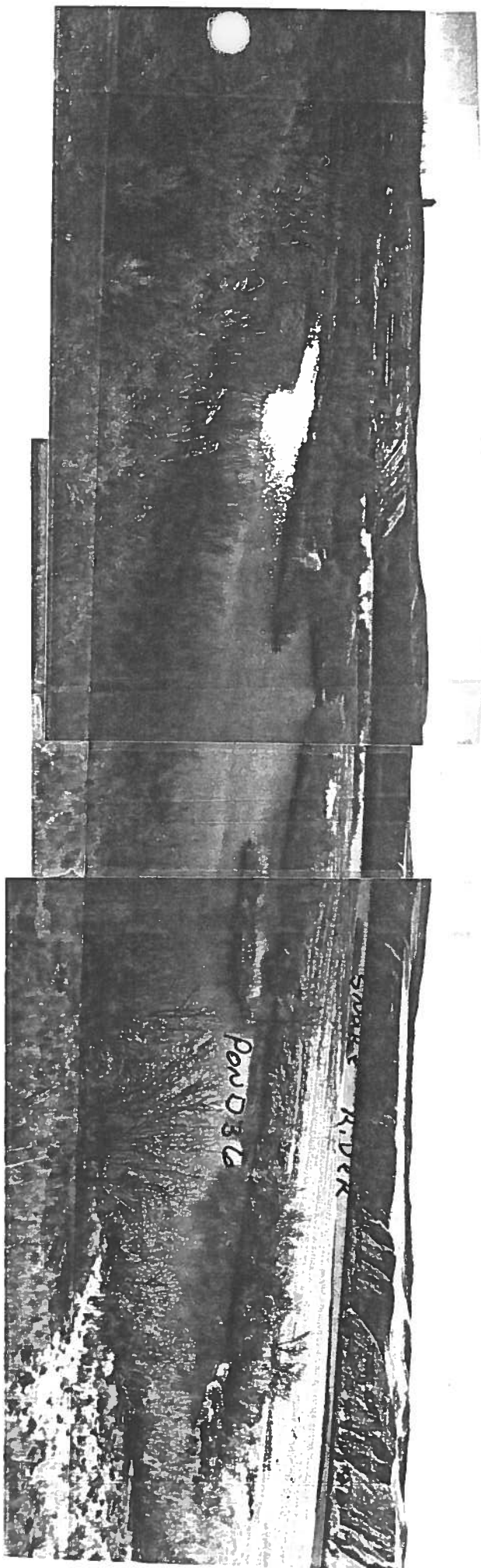
POND

34



Original
in Field
EXAM
36-08728

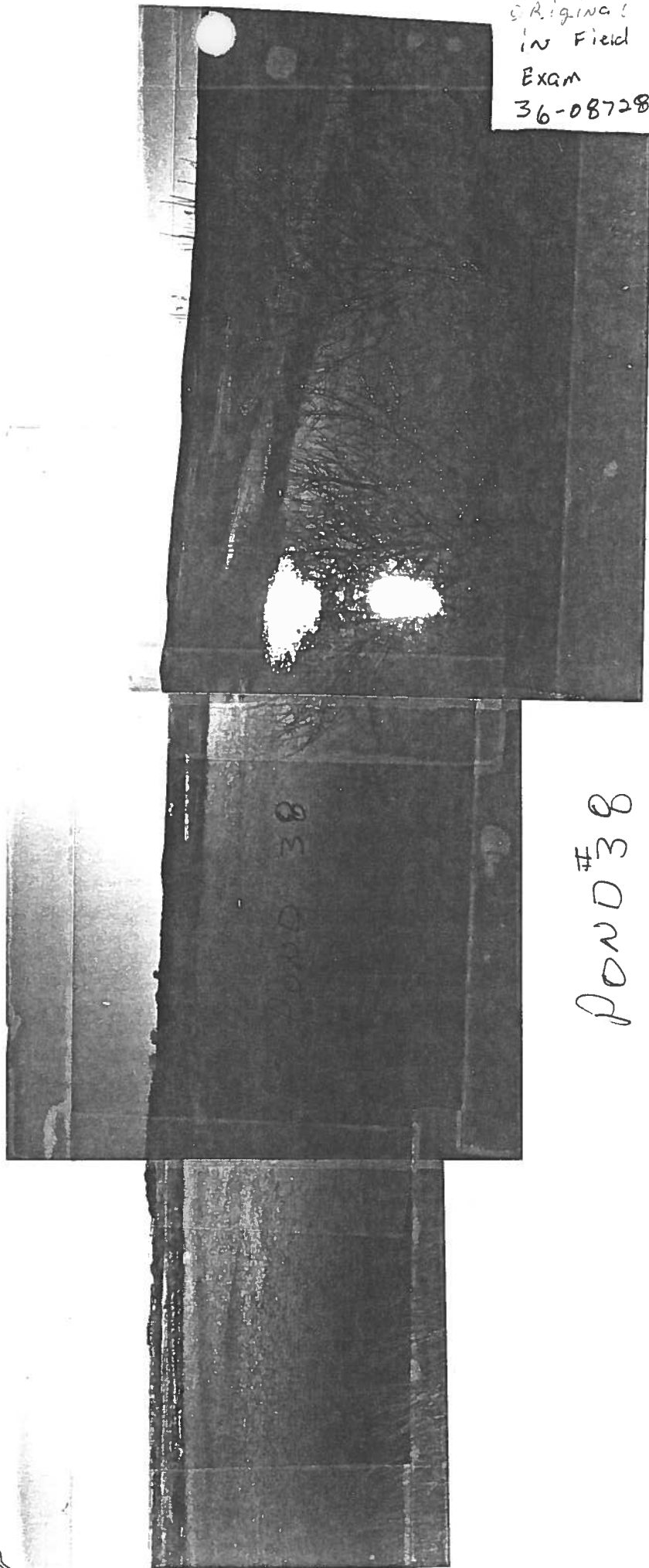
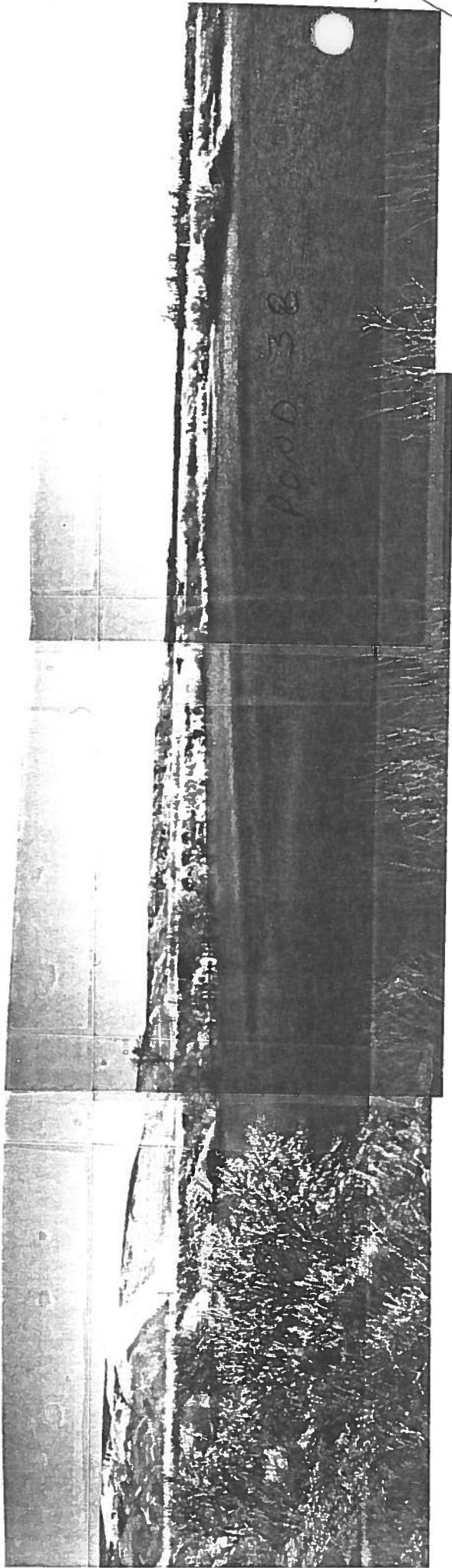
POND 34



POND #35

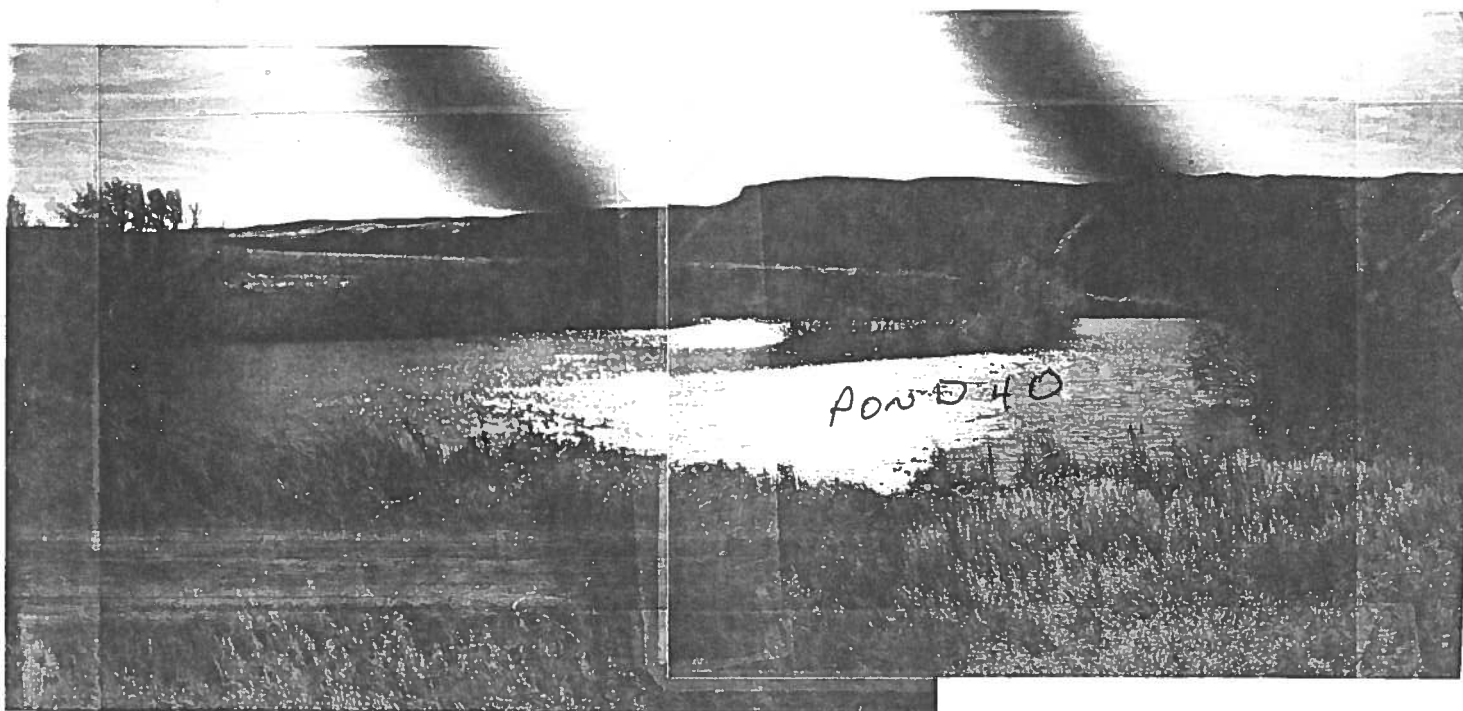


ORIGINAL
IN FIELD
EXAM
36-08728

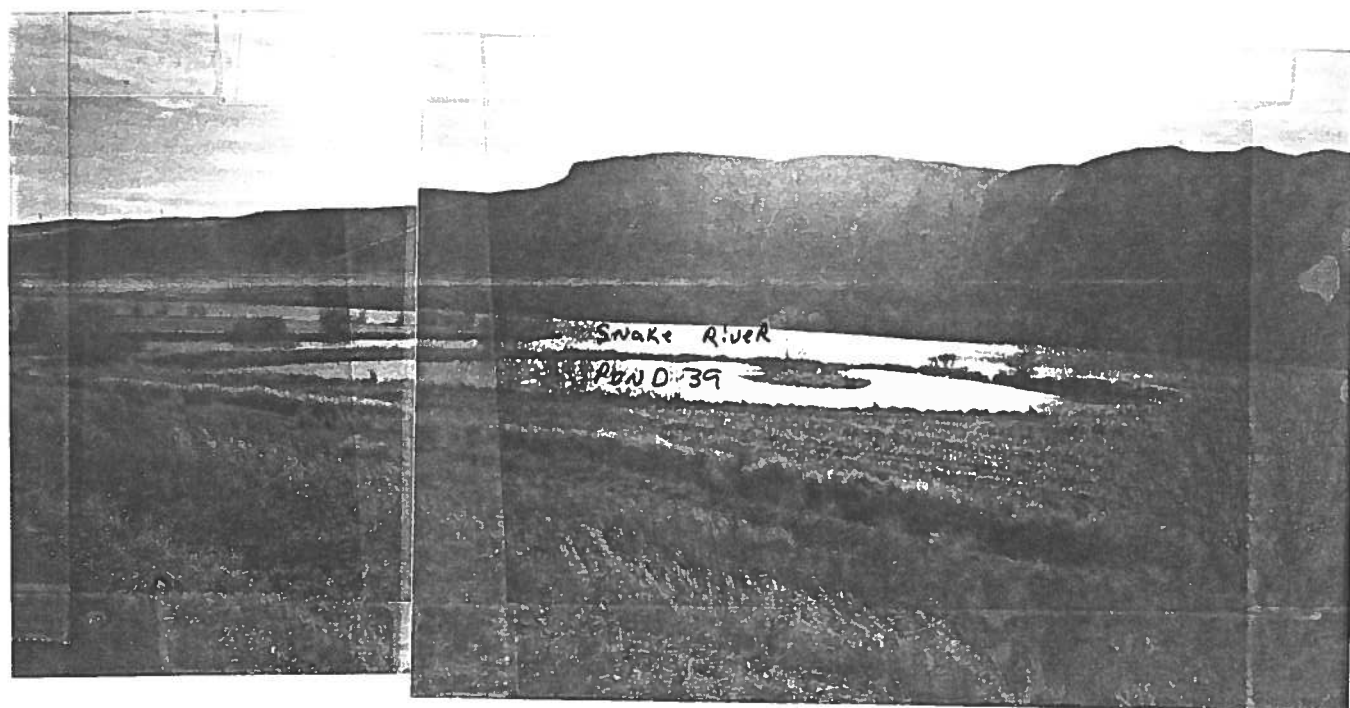


POND #38

Original:
IN Field
Exam
36-08728

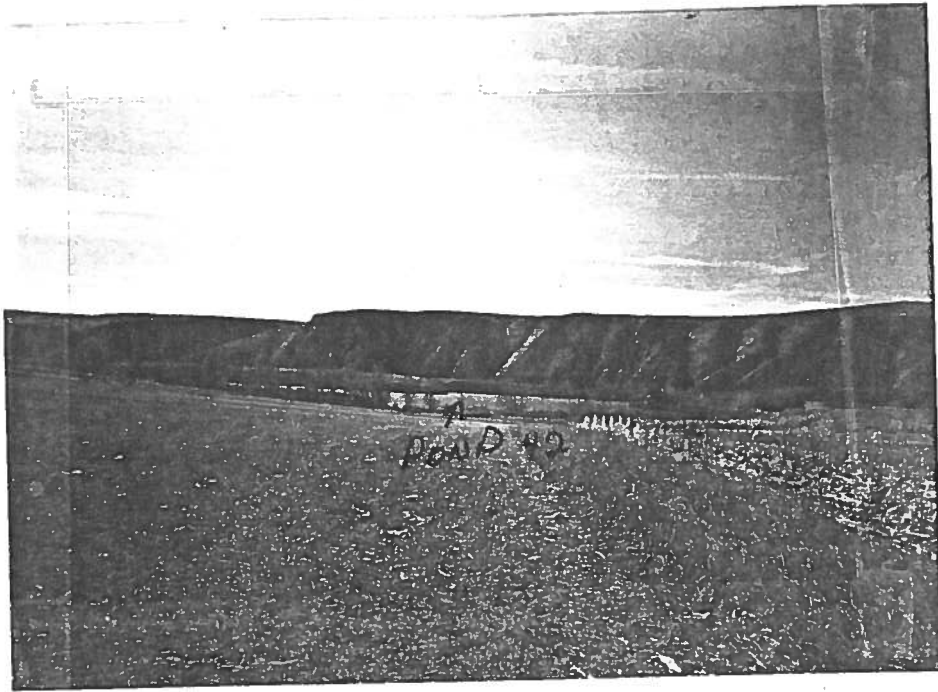


POND #40

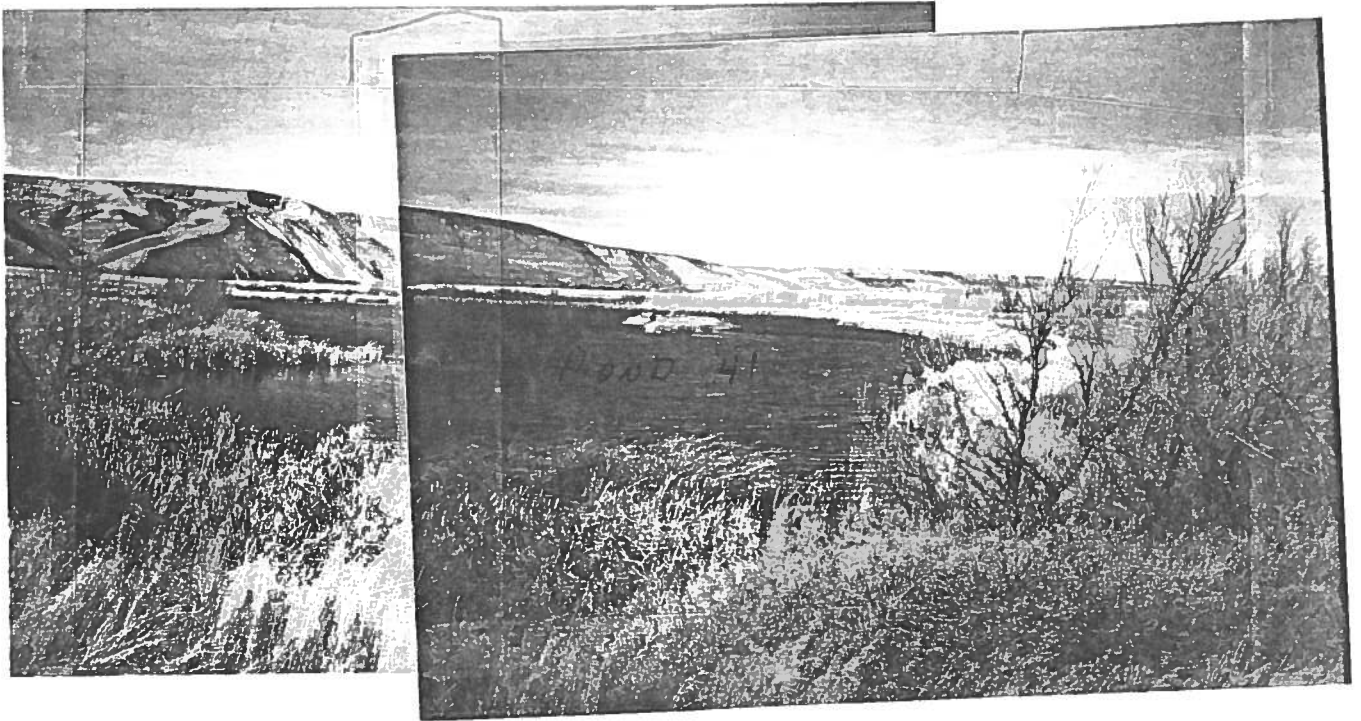


POND #39

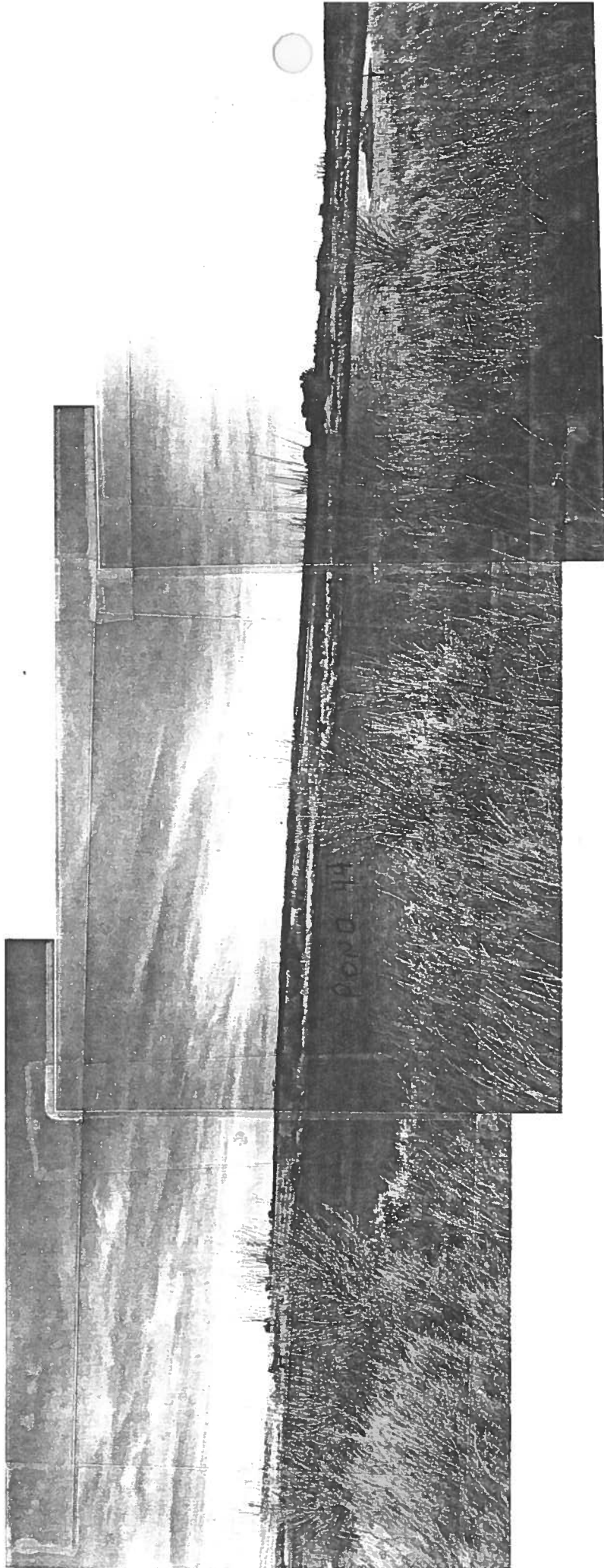
Original
in Field
Exam
36-08728



POND 42

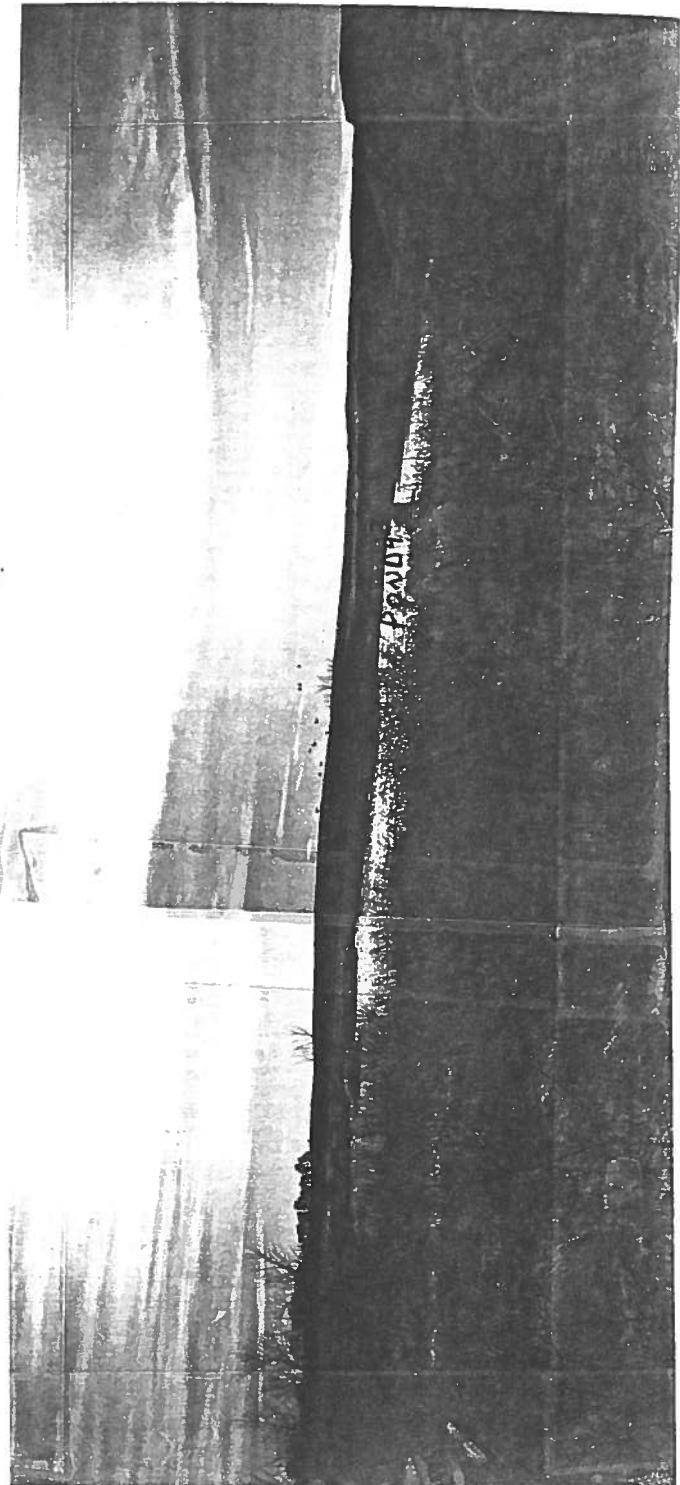


POND 41

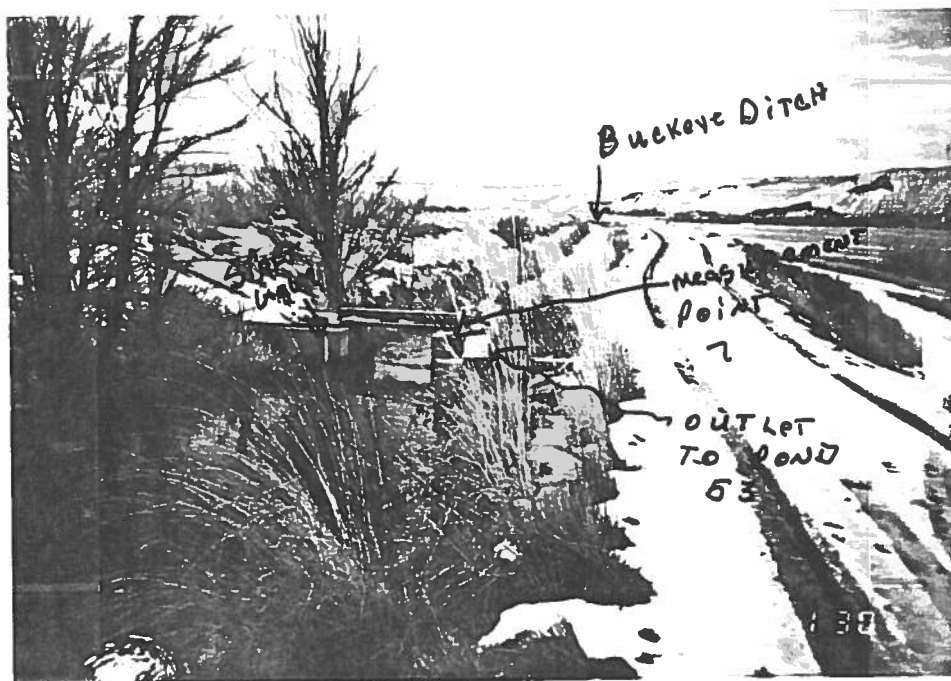


↑
POND 44

Original
in Field
EXAM
36-08728



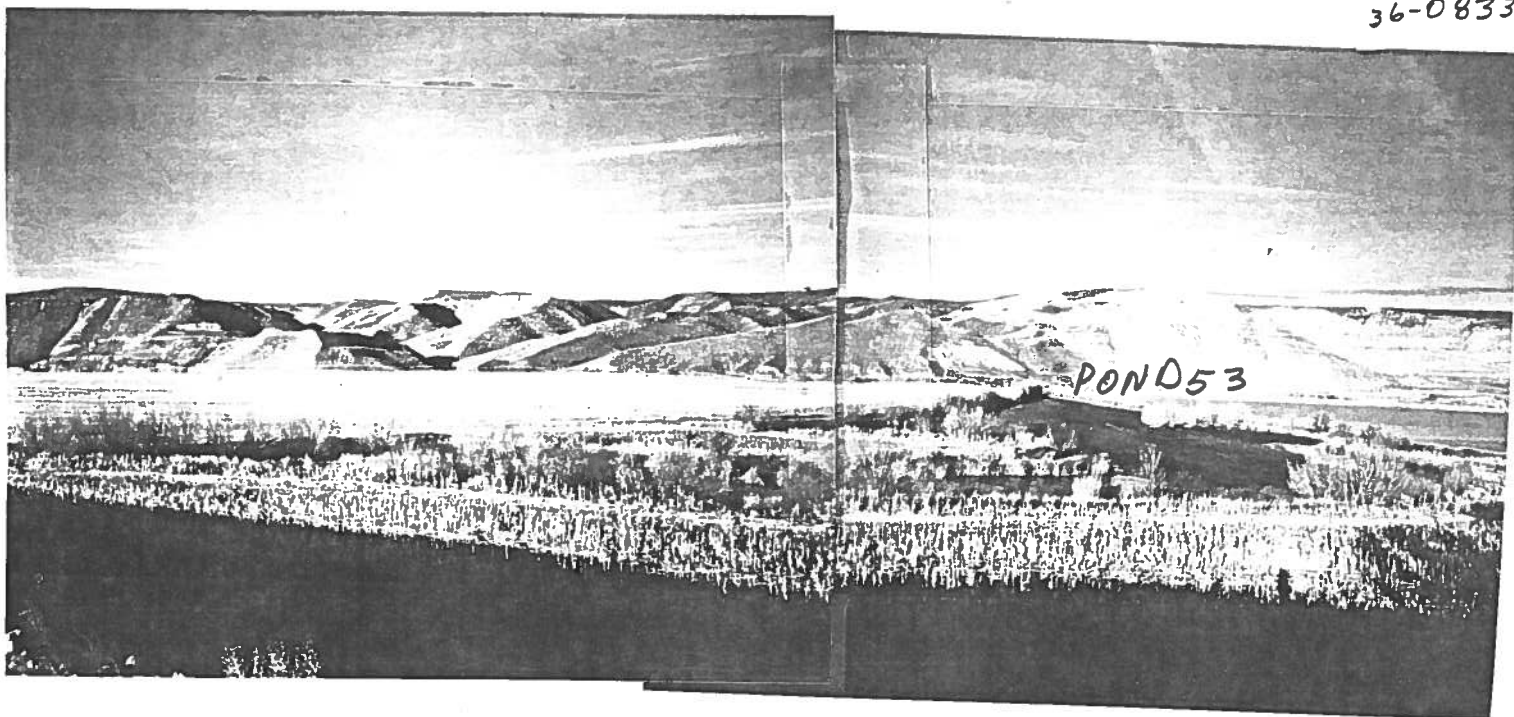
← POND 43



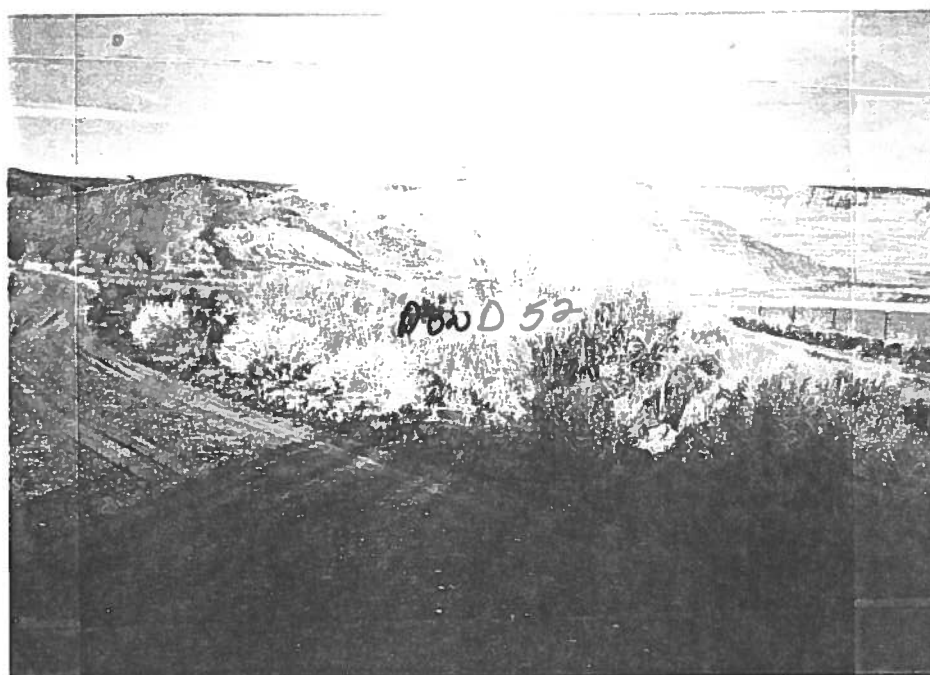
This is MEASUREMENT POINT 7.

This Buckeye Ditch. The water
can travel from this point to the
Fish Hatchery and/or be diverted to
POND 53.

THE ORIGINALS
ARE IN
FOLDER
36-08335

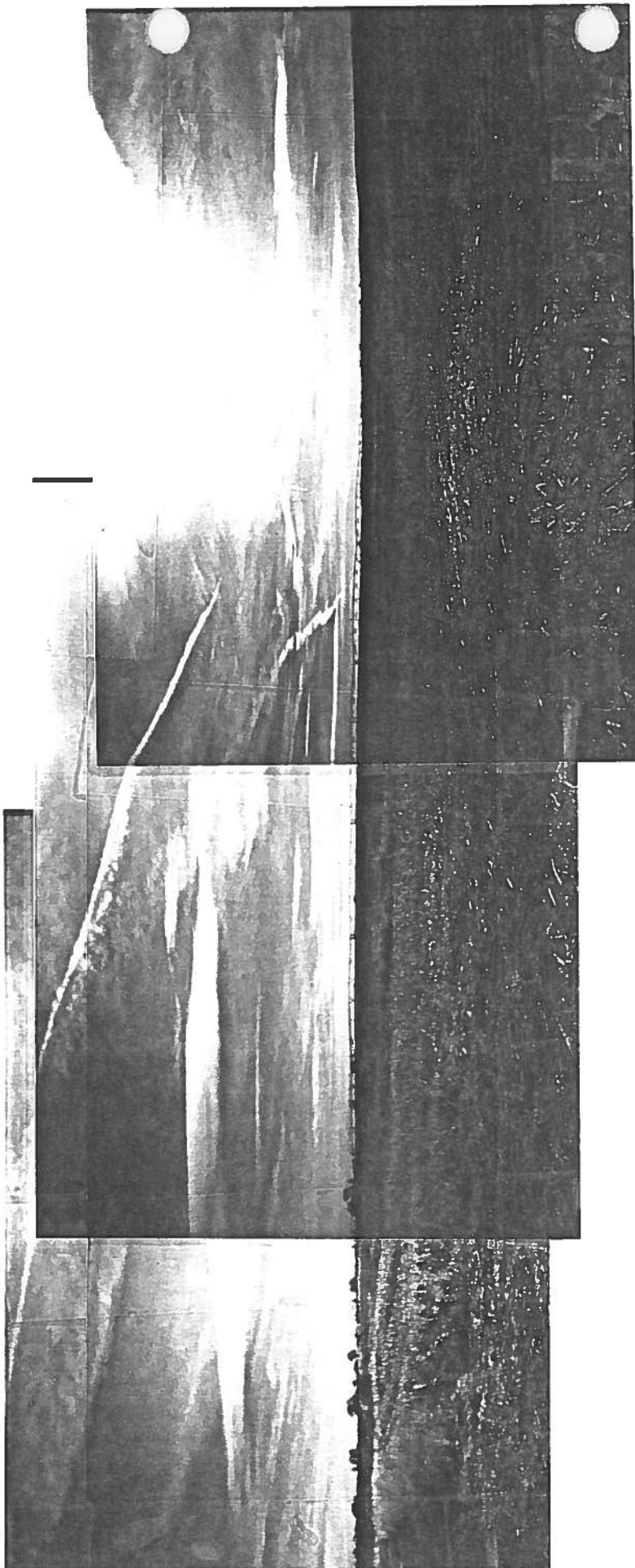


POND 53



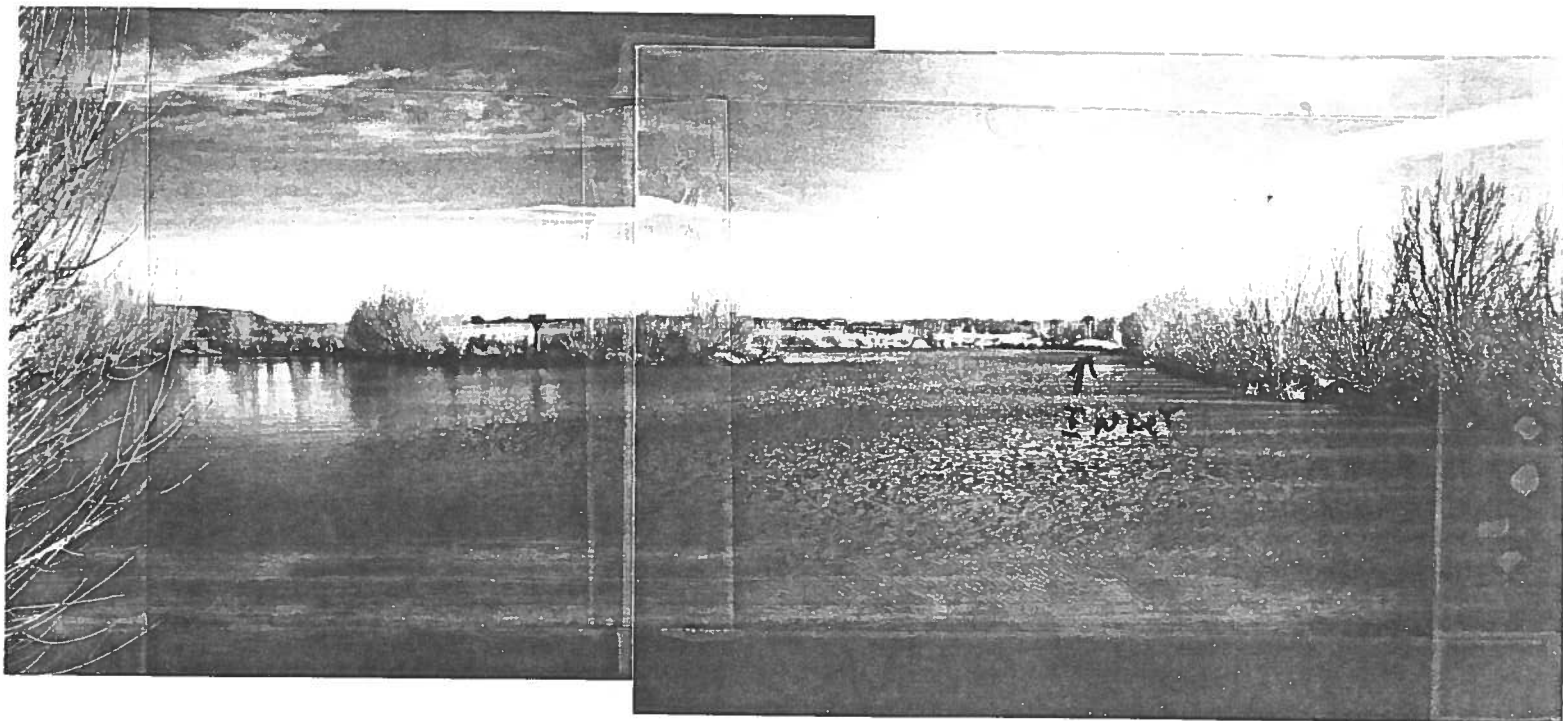
POND 52

THE ORIGINAL
ARE IN
FOLDER
36-08335

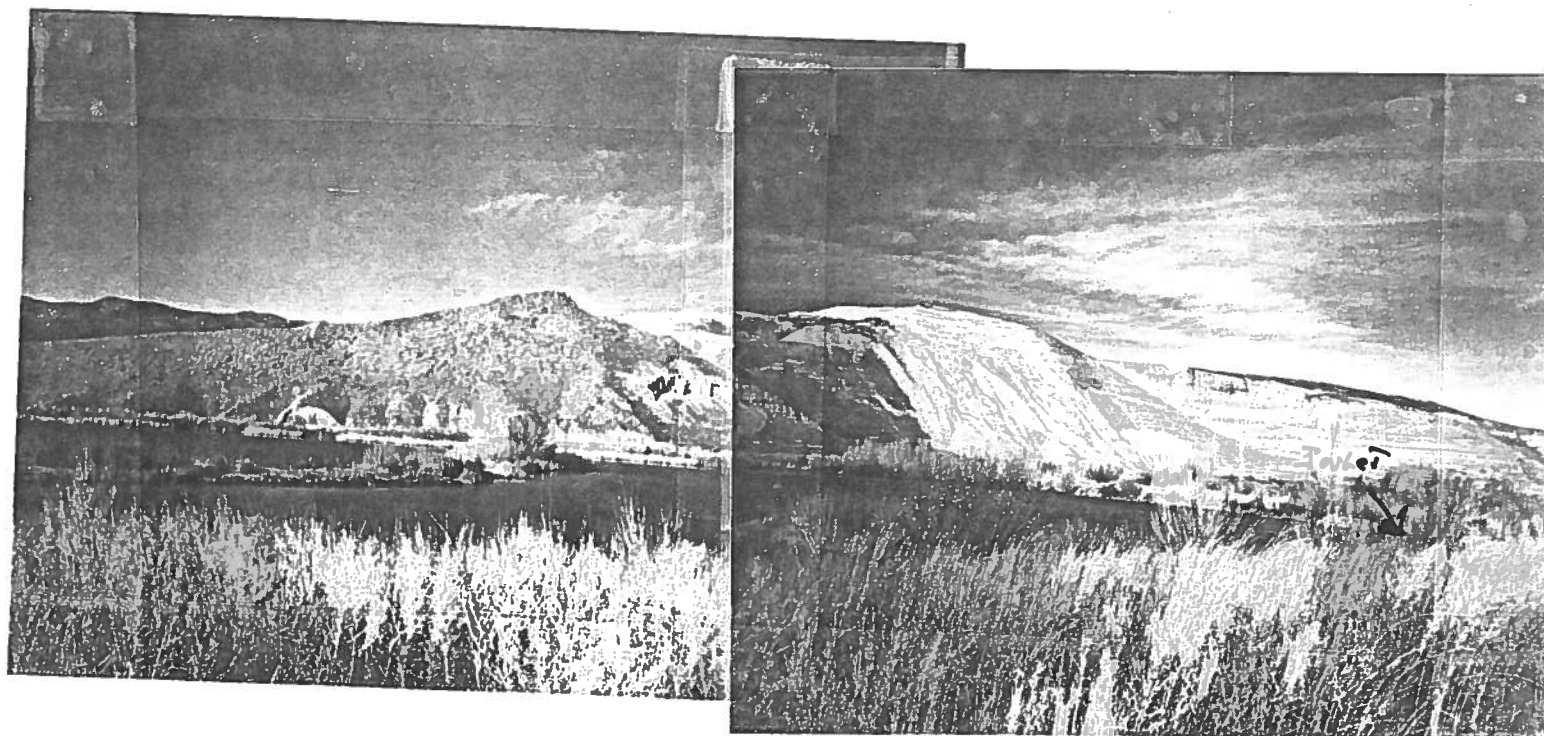


POND 51

TH = ORIGINAL
ARE IN
FOLDER
36-08335



POND 49



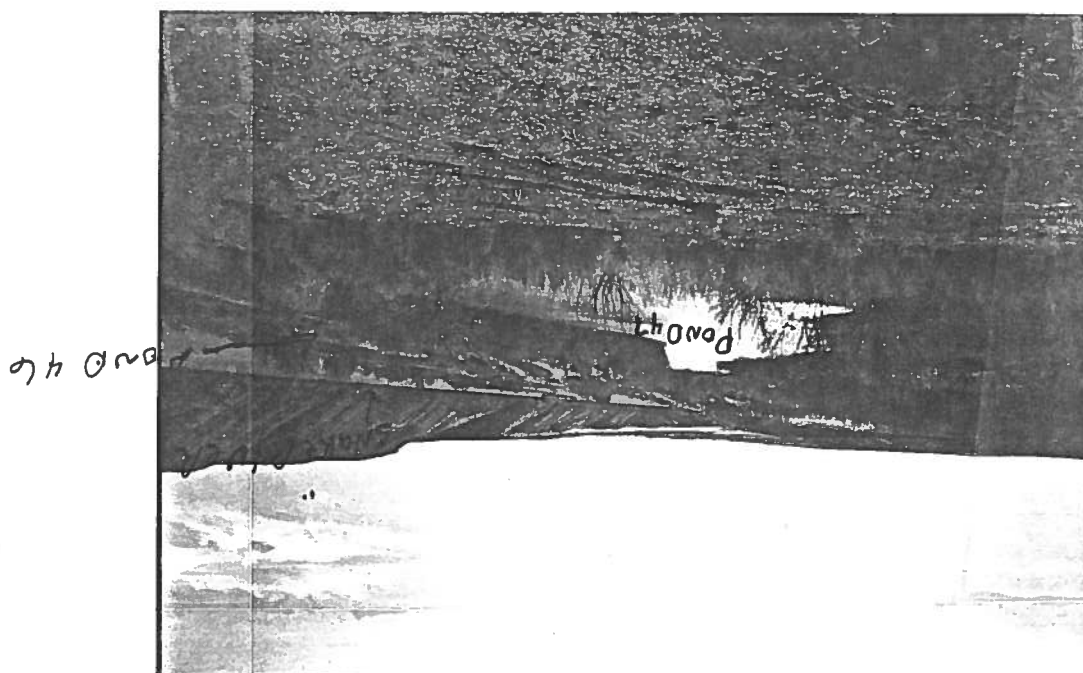
POND 50

The original
are in
Folder
36-08335

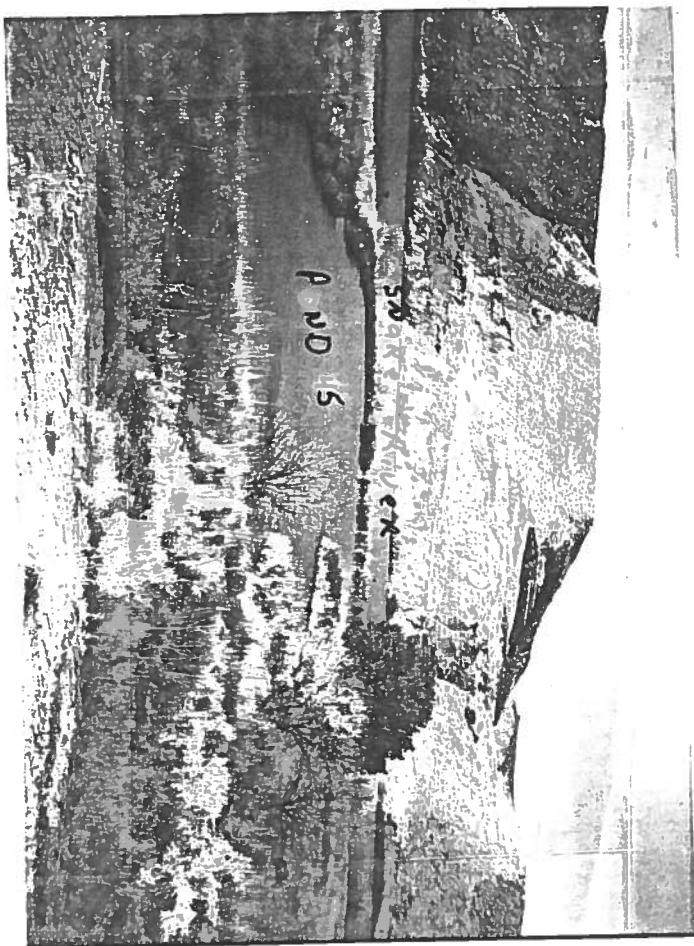
8h 0000



7h 0000

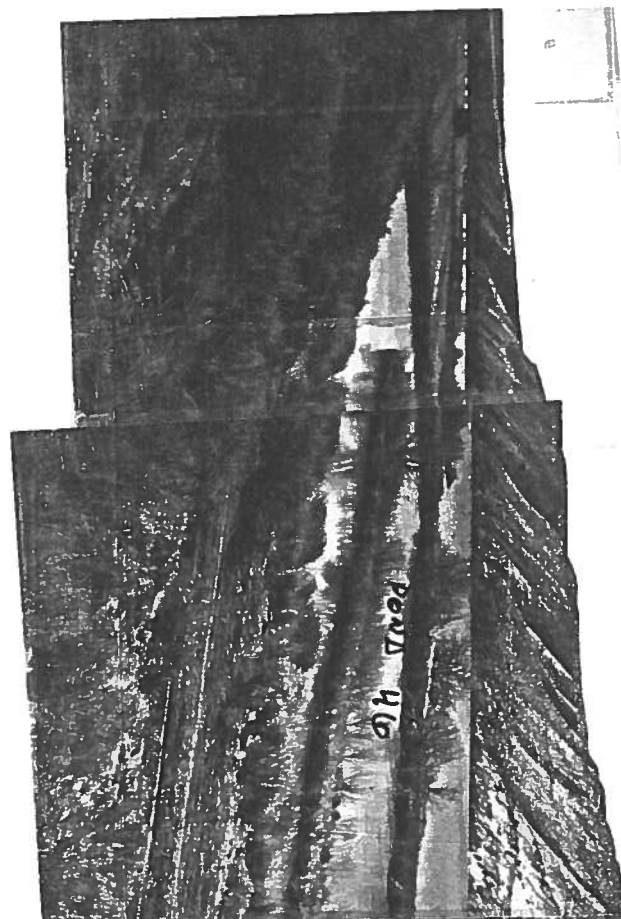
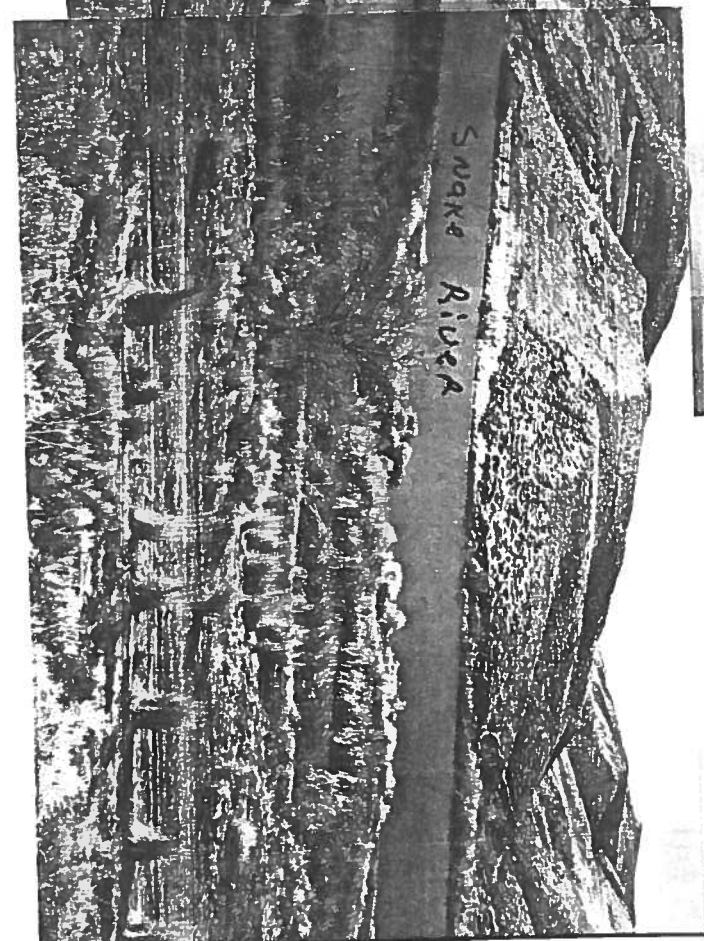


The original
are in
Folder
36-08335



← Pond 45

↑ Pond 46



The original
are in
Folder
36-08335



Measurement #1

This is the outlet of POND 46



This is measurement point 4.
It is the inlet to POND 37

Western Legends LC

Post Office Box 737
Hagerman, Idaho 83332

December 9, 1998

Telephone (208) 837-6641

Via Fax: 736-3037
Allen Merritt
Idaho Department of Water Resources
1341 Fillmore Street, Suite 200
Twin Falls, ID 83301-3380

RECEIVED

DEC 09 1998

Department of Water Resources
Southern Region

cc: Dave Tuthill, Boise IDWR
Via Fax 327-7866

Re: Permit/License processing
Buckeye Farms - Nos. 36-07739, 36-08335, 36-07742, 36-08730,
36-07741, 36-08729, 36-07740, 36-08728
Buckeye Farms - New Applications filed 10/98 (3 applications)

Dear Allen:

As we discussed with you on Monday, we hereby formally request that we be notified and receive copies of all further actions taken on the above referenced Applications for permit and Permits being processed to licenses. As we stated, we will be submitting comments with respect to all of these applications and/or permits being processed to licenses.

We are requesting this information in accordance with the Idaho Code Administrative Procedures Act.

Please send all notices to:

Western Legends LC
P. O. Box 737
Hagerman, ID 83330

Thank you for your cooperation in this matter.

Very truly yours,

WESTERN LEGENDS LC



Michael McCarthy
Co-Manager

**ANALYSIS SHEET
FOR
PROOF OF BENEFICIAL USE**

Permit No. 36-08729 Reviewed by Jf Date 12/16/94

GENERAL CONSIDERATIONS

TYPES OF USE

yes Name same as permit?
yes Address same as permit?
yes Proof timely received? Correct Uses? yes
If not, complete calculation below.

wildlife Storage

SOURCE OF WATER

✓ Surface water source
Ground water source
Drilling permit required?
Copy in the file? Drilling Permit No. _____
Amount paid for permit _____ Correct?
Well log in the file?

LICENSE EXAMINATION FEE

yes Required?
600.00 Amount Submitted
yes Correct?

MEASURING DEVICE

yes Required?
yes Installed?
Waiver requested?

PRIORITY CALCULATION

Date proof received _____
Date proof due _____ - _____
No. of days late _____ = _____
Priority Date _____ + _____
New Priority Date _____

DEFICIENCIES OR ACTION ITEMS

Proof acceptable

DATA ENTRY

New Address _____ Proof Made 12/12/94