

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

1. Owner: Edward G. Howell

Current Address: Box 216 ASHTON, IDAHO 83420

2. Accompanied by:

Address:

Relationship to Permit Holder:

3 Source: STRONG CREEK tributary to SNAKE RIVER

Permit No 21-1190

Phone No 652-3515

EXAM. DATE: 10-July-1987

Phone No SAME

B OVERLAP REVIEW

1 Other water rights with same place of use:

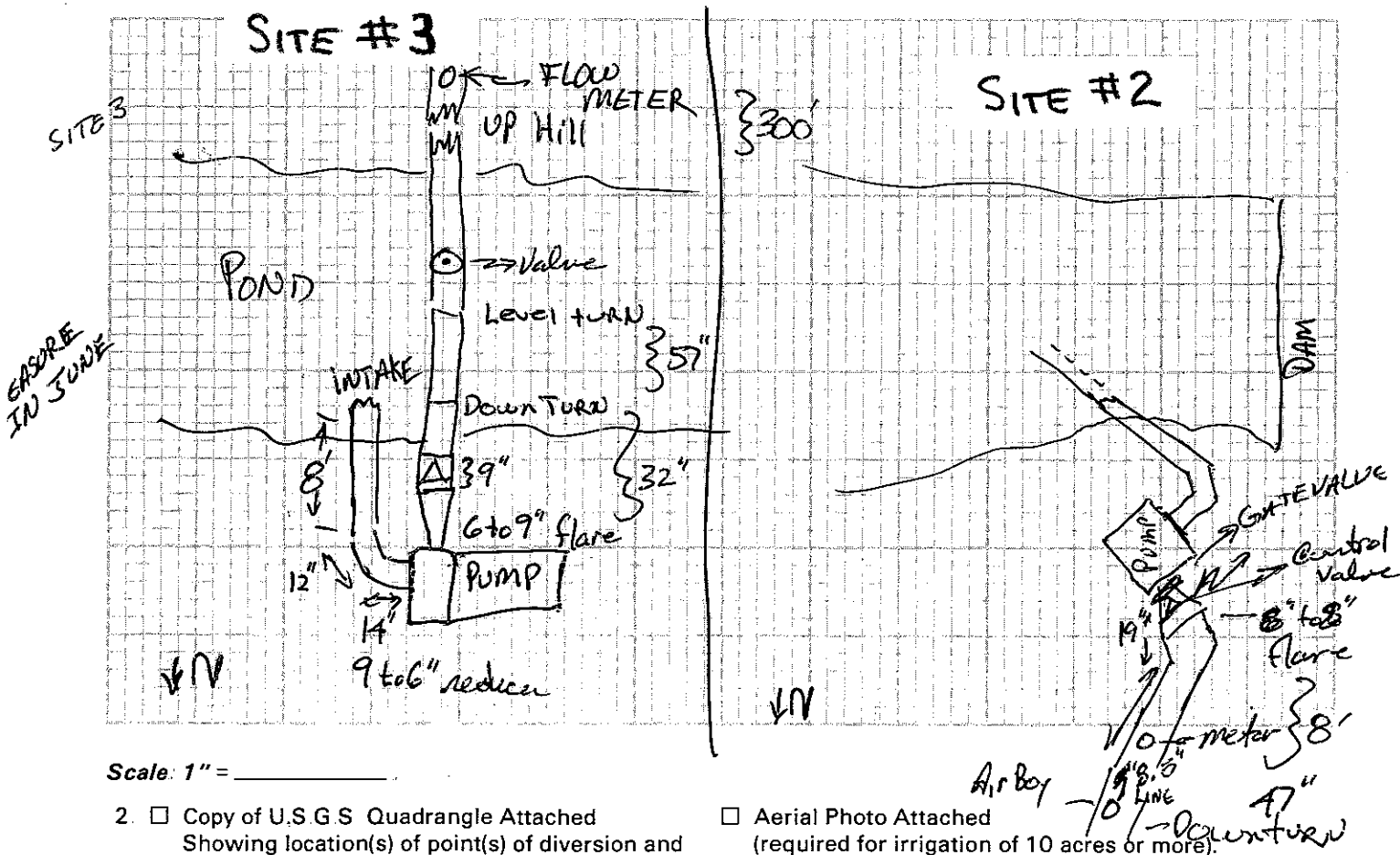
☐ Copies Attached

2. Other water rights with same point of diversion:

☐ Copies Attached☐ Copies of Field Exam's Attached

C. SYSTEM DESCRIPTION

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



Scale: 1" =

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

☐ Photo of Diversion and System Attached

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

☐ Aerial Photo Attached

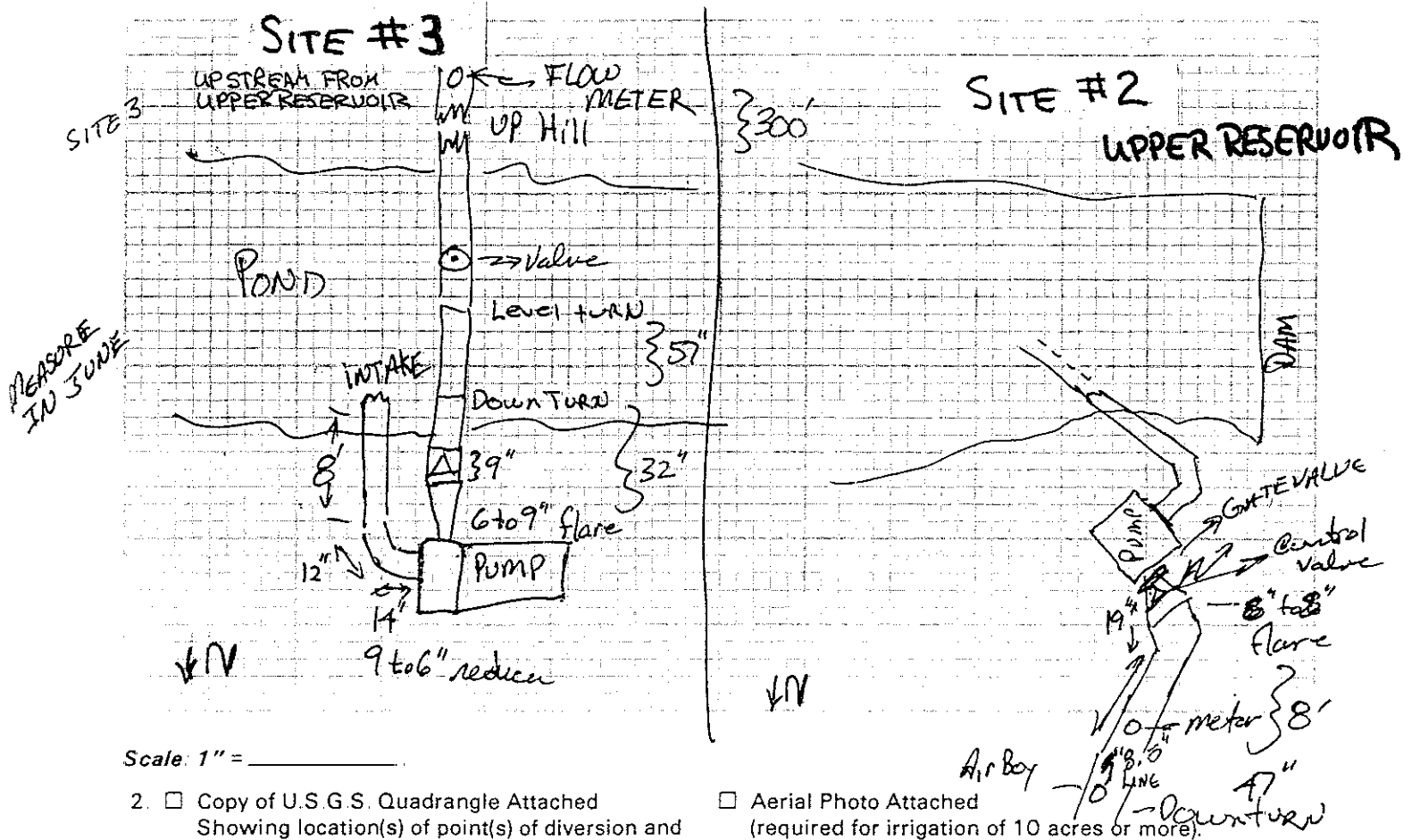
(required for irrigation of 10 acres or more)

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

Permit No 7190
21-7133

C. SYSTEM DESCRIPTION

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



2. ☐ Copy of U.S.G.S. Quadrangle Attached Showing location(s) of point(s) of diversion and place(s) of use (required).
- ☐ Photo of Diversion and System Attached (required for all but single household domestic groundwater, and stockwater).
- ☐ Aerial Photo Attached (required for irrigation of 10 acres or more).

21-07133

System Description (continued)

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

☐ See Remarks on page 4 for continuation

4

upper #3 diversion
#2 middle

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
EAST PUMP	G.E.	100	AES 115108	CORNELL	18446 9 7/8
WEST PUMP	MARATHON 46	75	DD-92550-4/11-3	CORNELL	19170 9

*Code to correspond with No on map and aerial photo

5. Point(s) of Diversion:

Ident. No.	Gov't. Lot	1/4	1/4	1/4	Sec.	Twp.	Rge.	County	Method of Determination/Remarks

6. Place(s) of Use:

Indicate Method of Determination

Twp.	Rge.	Sec.	NE 1/4				NW 1/4				SW 1/4				SE 1/4				Totals
			NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	

Do not use this space

Do not use this space

D. FLOW MEASUREMENTS

☐ Additional Data Sheets Attached

#3 EAST
#2 WEST
7-14-89
EXAM
EOL, Kew

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
INLINE FLOW METER	MACROM	MACROMETER	8" 00 7.73" 10	78 8 624	8"	114.287
INLINE FLOW METER	MACROM	MACROMETER		73-8-326		887.53

2. Measurements:

#1 WEST - $\frac{1}{1000}$ AC-FT IN 1.58.28 SEC IN 1.004 AC-FT | .003 #2 5.28 SEC PSI > 100

#3 EAST - .005 AC-FT IN 2 min. 29 SEC. Valve steady @ 600-625 gal/min. 665 gal/min.

Pond @ Face is 100' wide 0.3 mile long - 7 depth is 5' = 18 AC-FT

E. FLOW CALCULATIONS

☐ Additional Computation Sheets Attached

1. Measured Method:

2. Alternates

F. PUMP EFF

Discharge
Total Head

Water Head
Meter In
Meter In
Panel In
Panel In

Theoretical on East Pump - 100 HP
Measure 1.75 cfs
1.81 cfs @ 73% eff
100 HP @ 175 PSI
CFS = $\frac{HP(8.814)(.80)}{HEAD + (PSI \times 2.308)} = 2.00 \text{ cfs}$
900 gal/min
70% off w/ w 130 psi = 1.99
1.72 = 772 gal/min

2) Rate: _____ cfs (4)

1) T = _____ (6)
(6)

G. VOLUME

1. Volume

$V_{IR} = (1.72 \text{ cfs} \times 1440 \text{ min/hr} \times 10 \text{ hr/day}) = 24672 \text{ gal/day}$

$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 =$ _____

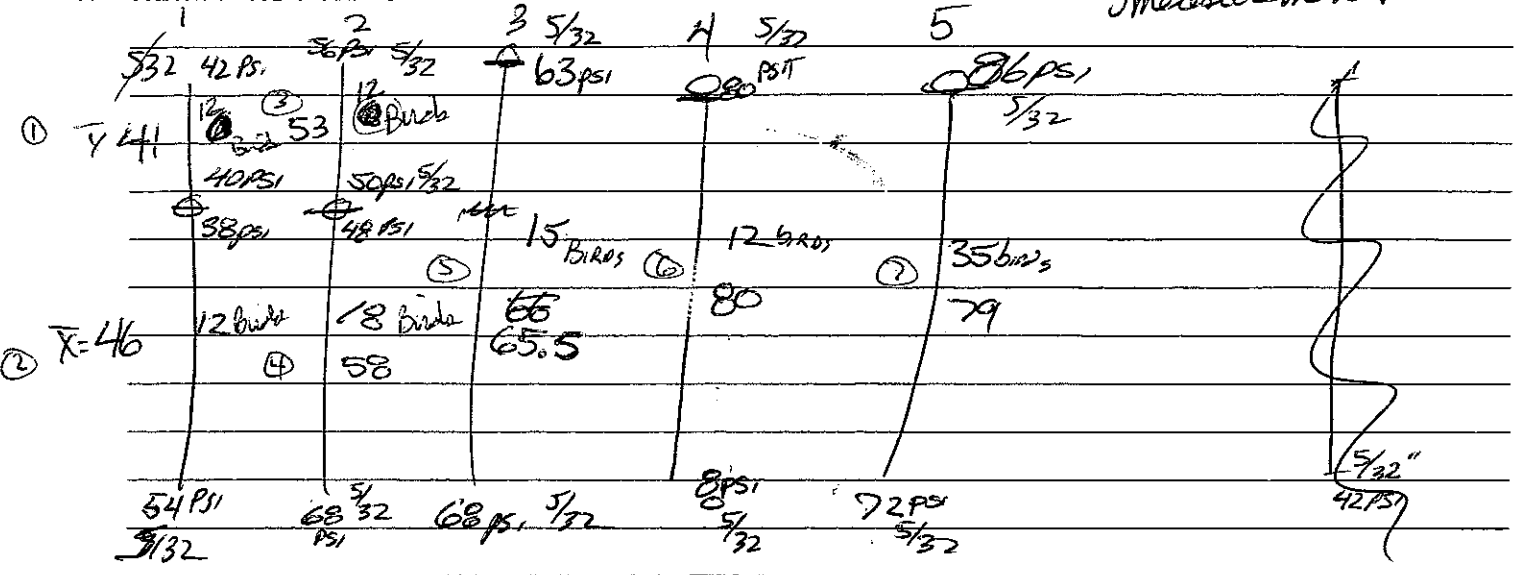
$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} =$ _____

2. Volume Calculations for Other Uses:

7-14-89 measurement

West Pump - Pitot Gauge measurements

H REMARKS AND OVERLAP REVIEW ANALYSIS



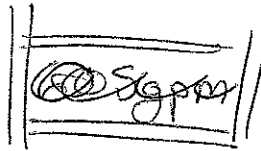
I. RECOMMENDATIONS

West Pump - Measurement w/ pitot Gauge

$$\text{Equation} = Q = 0.0665 d^2 \sqrt{PSI}$$

$$\frac{5}{32} d^2 = 0.0244141 \times 0.0665 = 0.0016235$$

- Sec
- 1- 0.0103957 x 12 = 0.125
 - 2- 0.0110114 x 12 = 0.132
 - 3- 0.0118195 x 12 = 0.142
 - 4- 0.0123645 x 18 = 0.222
 - 5- 0.0131396 x 15 = 0.200
 - 6- 0.0145213 x 12 = 0.174
 - 7- 0.0144303 x 35 = 0.505



659.7 gpm

139 cfs 1.49 =

$\bar{X}$ PSI = 60.3

5.6 gpm $\frac{5}{32}$ "10022

139 No2 = 785 gpm

Annual Volume V (afa)

Rate of Diversion Q (cfs)

#1 West Pump

Signature

Certification Date

Field Report Preparation Date

Theoretical for West Well Pump -

75 HP @ 125 PSI

$$Cfs = \frac{(HP)(8.814)(.80)}{HEAD + (PSI \times 2.308)}$$

10' HEAD

1.49 cfs

695.7 gal/min

$$\textcircled{1} \bar{X} 45 \text{ PSI } 24 - \frac{5}{32} = 4.91 \text{ gpm} = 117.84$$

$$\textcircled{2} \bar{X} 60 \text{ PSI } 30 - \frac{5}{32} = 5.65 \text{ gpm} = 169.50$$

$$\textcircled{3} \bar{X} 65 \text{ PSI } 30 - \frac{5}{32} = 5.87 \text{ gpm} = 176.10$$

$$\textcircled{4} \bar{X} 80 \text{ PSI } 24 - \frac{5}{32} = 6.52 \text{ gpm} = 156.48$$

$$\textcircled{5} \bar{X} 80 \text{ PSI } 35 - \frac{5}{32} = 6.52 = 228.20$$

88.05

681.8

1.52 cfs 848.12 gpm

= 1.89 cfs

$$Q = \frac{75(8.814)(.70)}{10' + (100 \times 2.308)} = 1.42 \text{ cfs}$$

PUMP DATA SHEET

Tom Howell

July-86

Pump #3 13045727

DATE	IN-LINE METER READING		POWER METER READING	VOLUME DIVERTED
	RATE (cfs)	VOLUME (AF)	DEMAND KW (HOURS)	TO DATE (AF)
1991	Carroll	all 1990	542.0 A/F	
6-28-91	✓	546.6		11.6 A/F
7-27-91		574.1		32.1 A/F
8-28-91		583.3		41.3 A/F
10-15-91		587.6		45.6 A/F
	1992			
5-30-92		598.8		11.2 A/F
6-29-92		603.7		16.1 A/F
7-29-92		616.0		28.4 A/F
8-27-92		618.1	TOTAL Storage)	30.5 A/F
10-5-92		619.8	" "	32.2 A/F
	1993			
6-23-93		619.8		0
7-27-93		634.9		15.1 A/F
8-25-93		634.9	off for Season	15.1 A/F
	1994			
6-22-94		649.6	14550 KW hrs.	14.7 A/F
7-29-94		676.4	54260 KW hrs	41.5 A/F
8-31-94		688.0	58560 K/W	53.1 A/F
10-13-94		692.9	61760 K/W	58.0 A/F
	1995			
7-25-95		711.0	06163 K/W	18.1 A/F
8-29-95		721.6	07428 K/W	28.7 A/F
10-10-95	Same	721.6	07428 K/W	28.7 A/F
	1996			
6-29-96		733.4	07717 K/W	11.8 A/F
7-26-96		747.2	07947 K/W	25.6 A/F
8-29-96		747.2	07947 K/W	25.6 A/F
10-7-96		SAME	SAME	25.6 A/F
	1997			
6-30-97	(NOT	using this Season)		-0-
8-26-97	"	"	"	-0-
10-18-97	"	"	"	

Tom Howell Renter From Bank
Lower Pump

652-3450 10m

10m through 10/1/91

PUMP DATA SHEET

~~10m through 10/1/91~~

Pd Lawrence #2 13045724

DATE	IN-LINE METER READING		POWER METER READING		VOLUME DIVERTED TO DATE (AF)
	RATE (cfs) carry over 1970	VOLUME (AF)	DEMAND	KW (HOURS)	
6-28-91		117.9	No Use		00
7-27-91		117.9	NOT Working	est use	12.5 A/F
8-28-91		117.9	" "	" "	20.2 A/F
10-15-91			" "	" "	22.4 A/F
	1992				
5-30-92		(New meter)	Fixing (NOT ON)		0
6-29-92		000.00	Starting Meter		0
7-29-92		15.2	" "		15.2
8-27-92		24.8	" "		24.8
10-5-92		31.3	" "		31.3 A/F
	1993				
6-23-92		31.3	NOT running yet		0
7-27-93		43.4			12.1 A/F
8-25-93		43.4	Off For Season		12.1 A/F
	1994				
6-22-94		43.4	13691 KW hrs		0
7-29-94		43.4	20602 KW hrs ?		est 15 A/F
8-31-94		43.4	(Off For Season)		15.0 A/F
10-13-94			SAME		15.0 A/F
	1995	Diff. meter			
7-25-95		003.2	333		3.2 A/F
8-29-95		021.0	31751 K/W		21.0 A/F
10-10-95		022.5			23.0 A/F
	1996				
6-29-96		43.2	07354 K/W		20.7 A/F
7-26-96		58.9	18174 K/W		36.4 A/F
8-29-96		58.9	" "		36.4 A/F
10-7-96		SAME	" "		" "
	1997				
6-23-97		SAME			-0-
7-25-97		(NOT USING)			-0-
8-26-97		" "	18174 K/W		-0-
10-18-97					-0-

Strong cr. light
middle pump

PUMP DATA SHEET

July-86

TOTAL RECORD

~~130457~~

130457

DATE	IN-LINE METER READING		POWER METER READING		VOLUME DIVERTED TO DATE (AF)
	RATE (cfs)	VOLUME (AF)	DEMAND	KW (HOURS)	
1991	CARRY OVER 1990		909.7 A/F		
6-28-91		909.7	NOT IN USE YET!		00
7-27-91		936.9			27.2 A/F
8-28-91		952.5			42.8 A/F
10-15-91		956.6			46.9 A/F
1992					
5-30-92		956.6	NOT ON YET		0
6-30-92		972.9			16.3 A/F
7-29-92 (GAIN)		972.9	OFF PEAK SEASON		16.3 A/F
8-27-92		972.9	" STORAGE Total		16.3 A/F
10-5-92		972.9	" "		16.3 A/F
1993					
6-23-93		972.9	(27.1 Diff)		0
7-27-93		985.1			12.2 A/F
8-25-93		003.0			30.1 A/F
10-12-93		011.8			38.9 A/F
1994					
6-22-94		022.9	Hr. Meter Not Accessible		11.1 A/F
7-29-94		058.7	" "		46.9 A/F
8-31-94		075.4	" "		63.6 A/F
10-13-94		081.5	" "		69.7 A/F
1995					
7-25-95		103.5	" "		22.0 A/F
7-29-95		107.7	" "		26.2 A/F
10-10-95		109.6	" "		28.1 A/F
1996					
6-29-96		116.3	" "		6.7 A/F
7-26-96		127.3	" "		17.7 A/F
8-29-96		127.3	" "		17.7 A/F
10-7-96		SAME			17.7 A/F
1997					
6-30-97					-0-
7-25-97		127.3	" " Meter NOT est.		30.0 A/F
8-26-97		127.3	NOT WORKING est		46.0 A/F
10-18-97			NOT WORKING est		50.0 A/F

1992 Storage Allocation -

Tom Howard - Rexler

DAM SUMMARY SHEET

November 22, 1996

HOWELL UPPER (Site #2)
21 - 4011

INVENTORY _____ A
BASIN _____ 21
DAM NUMBER _____ 4011
FED ID NUMBER _____
DAM NAME _____ HOWELL UPPER
COUNTY _____ FREMONT
STREAM _____ STRONG CREEK
REGION _____ E
PURPOSE _____ IH
RISK CATEGORY _____ 3
SIZE CATEGORY _____ 3
Q-Q SECTION _____ NWSE
SECTION _____ 17
TOWNSHIP _____ 09N
RANGE _____ 43E
LATITUDE DEC _____ 44.1059
LONGITUDE DEC _____ 111.2835
DAM TYPE _____ EARTH
STORAGE CAPACITY _____ 30.00 ACFI
HEIGHT _____ 14.70 FT
DRAINAGE AREA _____ 1.60 SQMI
RESERVOIR AREA _____ 5.00 AC
YEAR COMPLETED _____ 1962
CREST ELEVATION _____ 5,270.00 MSL
CREST LENGTH _____ 110.00 FT
SPILLWAY TYPE _____ G/HOLE
SPILLWAY DEPTH _____ 7.10 FI
SPILLWAY CAPACITY _____ 69.00 CFS
OUTLET TYPE _____ CMP
OUTLET SIZE _____ 12 IN
OUTLET CAPACITY _____ 7.00 CFS
IDF _____ Q50
IDF MAGNITUDE _____ 86.00 CFS
RELEASE CAPACITY _____ 69.00 CFS

CONDITION _____ FR
MAINTENANCE _____ ROUTINE
INSPECTION DATE _____ 0896 MO/YR
CERTIFICATE EXP DATE _____ 1197 MO/YR
LAST RISK EVALUATION _____ 0590 MO/YR
SURVEY DATE _____ 7/10/91 MO/DD/YR
CALL UP DATE _____ MO/DD/YR
CERT ISSUE DATE _____ 11/15/95 MO/DD/YR
INSPECTION INTERVAL _____ 2YR
PHASE 1 INSP DATE _____
OPERATION PLAN _____ N
SEISMIC ANALYSIS _____ N
RESTRICTED _____
JOINT INSPECTION _____
QUAD NUMBER _____ V97
QUAD NAME _____ ASHTON

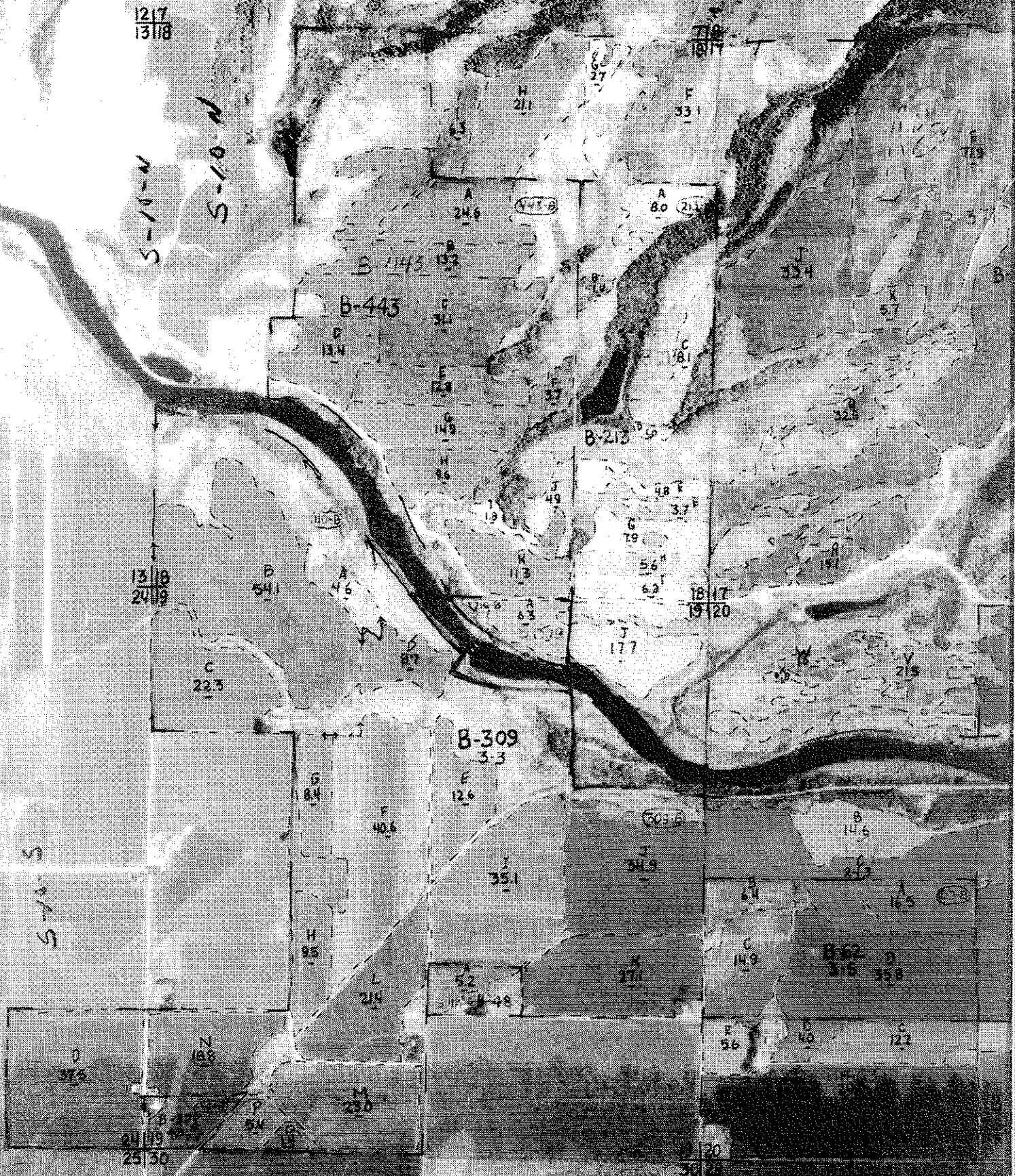
DAM OWNER _____ FRANK VANDERSLOOT
ADDRESS - 1 _____
ADDRESS - 2 _____ P O BOX 305
CITY _____ IDAHO FALLS
STATE _____ ID
ZIP CODE _____ 83405
ZIP SUFFIX _____
PHONE _____ 0
AREA CODE _____ 208

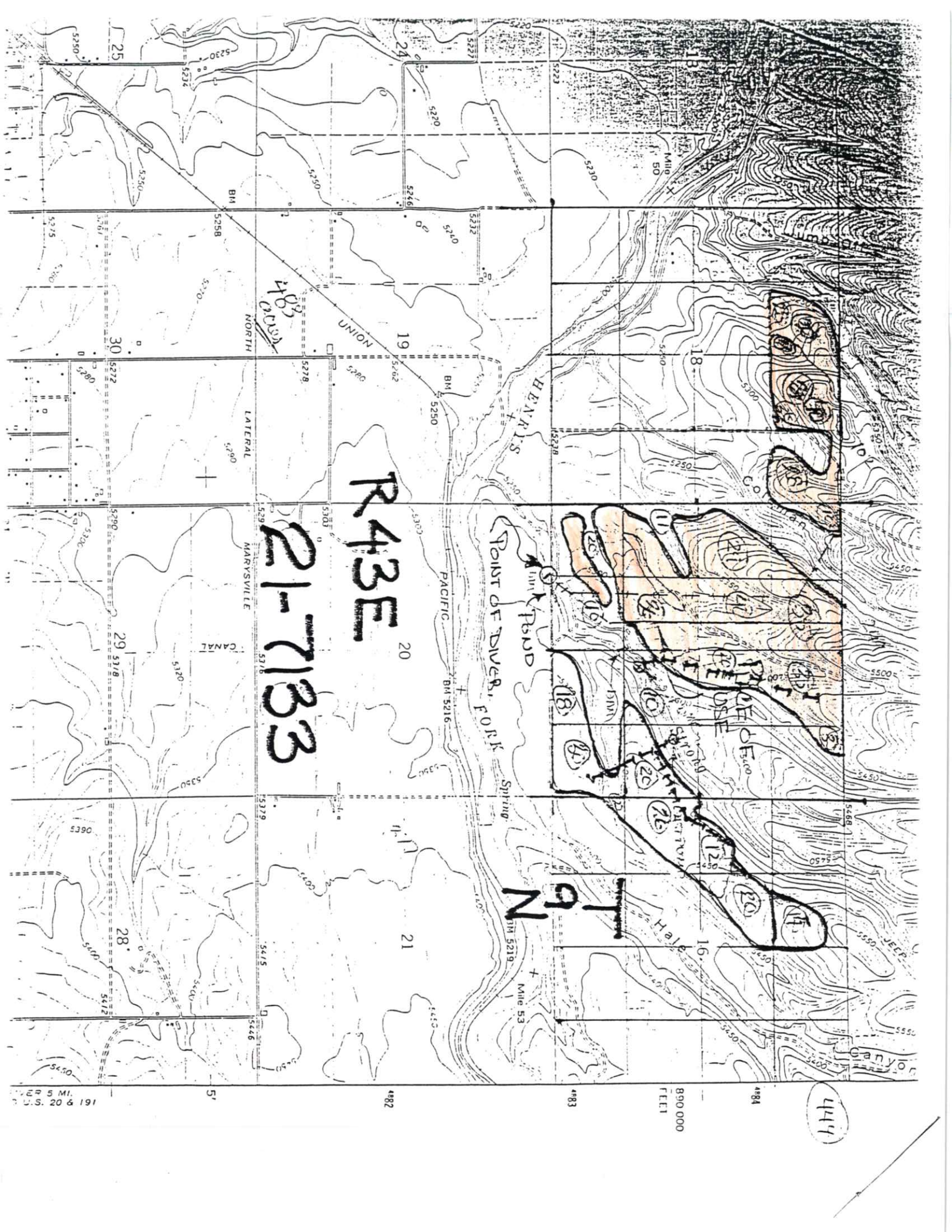
GENERAL REMARKS : DAM RAISED AND ECHAN SPILLWAY INSTALLED IN 1994. ECHAN SPILLWAY WILL ERODE IF IT IS EVER USED

TECHNICAL REMARKS : AUX SPILLWAY IS 3.3' DEEP X 10' WIDE ECHAN SPILLWAY ON LEFT ABUTMENT SPILLWAY CAP IS TOTAL THRU BOTH SPILLWAY WITH 2.0' FREEBOARD. OUTLET & RELEASE CAP ARE WITH 2.0' FREEBOARD.

RESTRICTIONS :

ALTERNATE CONTACTS :





R43E

21-7133

POINT OF DIVER, FORK

9

444

EVER 5 MI.
U.S. 20 & 191

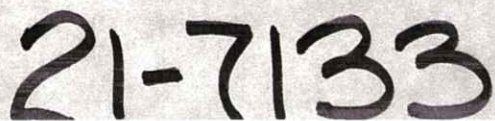
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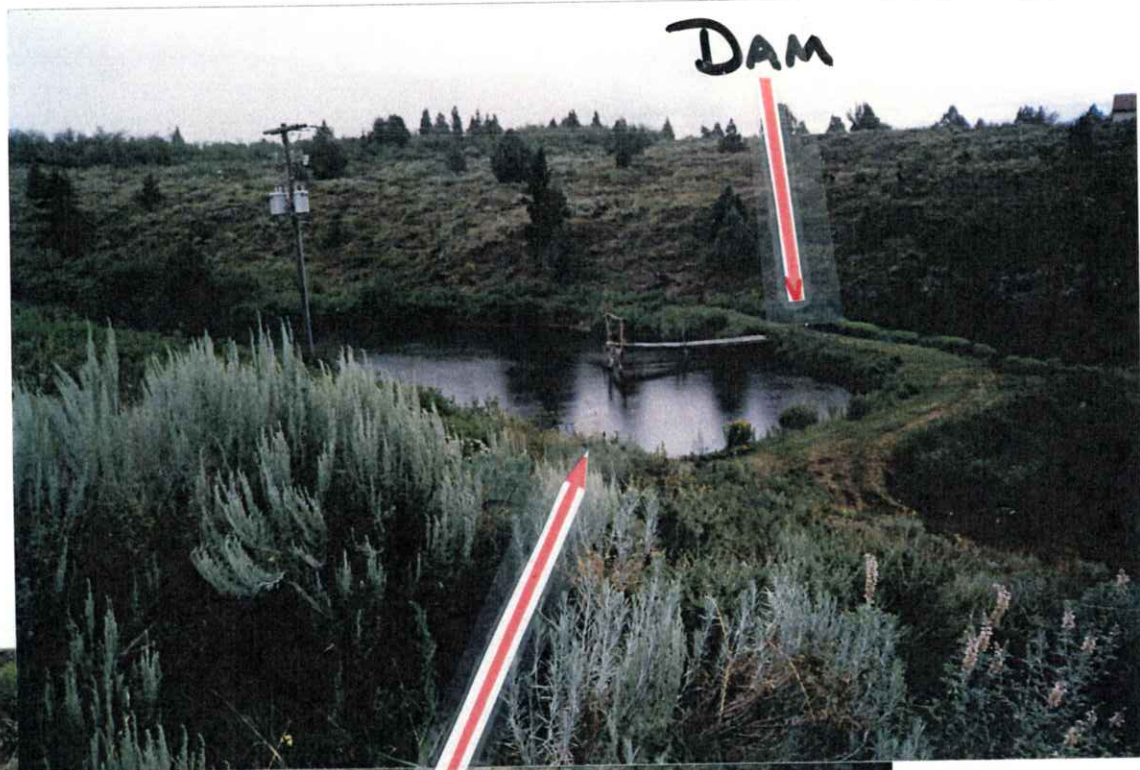
483

890 000
FEET

484

5-1





FLOW METER



SITE
#1

LOWER RESERVOIR

21-07133





DIVERSION AT DIVERSION
DAM ON UPPER
RESERVOIR

SITE
#2



DIVERSION AT DIVERSION
DAM ON UPPER
RESERVOIR

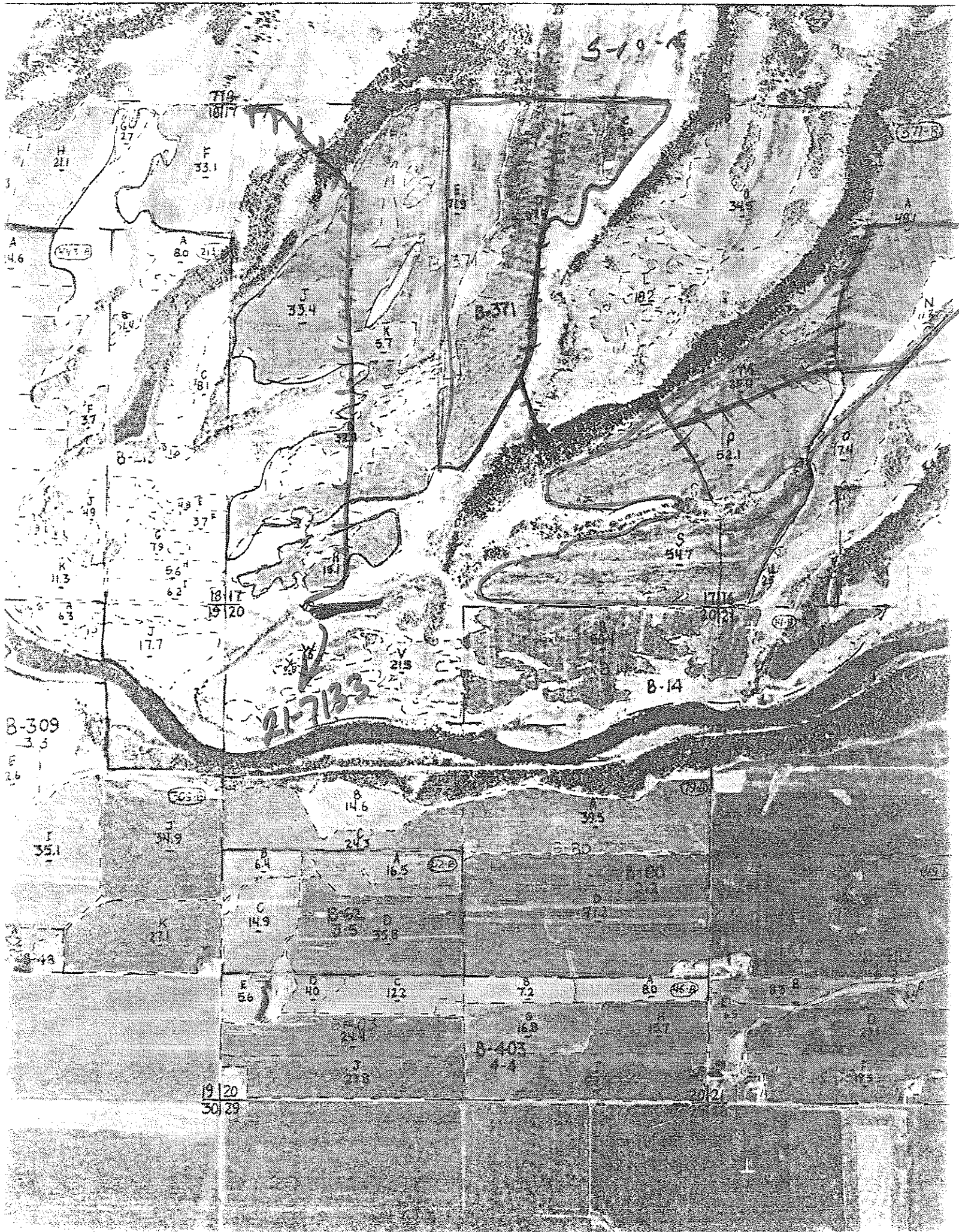
SITE
#2



UPPER DIVERSION
FROM UPPER RESERVOIR

SITE
3





FROM

Eric Verner

DATE 11-24-87

TO

File Exam 21-7133

SUBJECT

License recommendation -

After reviewing 21-7190 I recommended that the storage right for Mr. Howell's upper pond be ~~not~~ included w/ this permit no. since Capacity of 2 ponds is < 50 cfs. Will need to determine Capacity of upper pond next summer -

Next cover flow right for all three pumps (including pump in lower pond) under 21-7190 -

Exam in early summer - read flow meter!



SIGNATURE