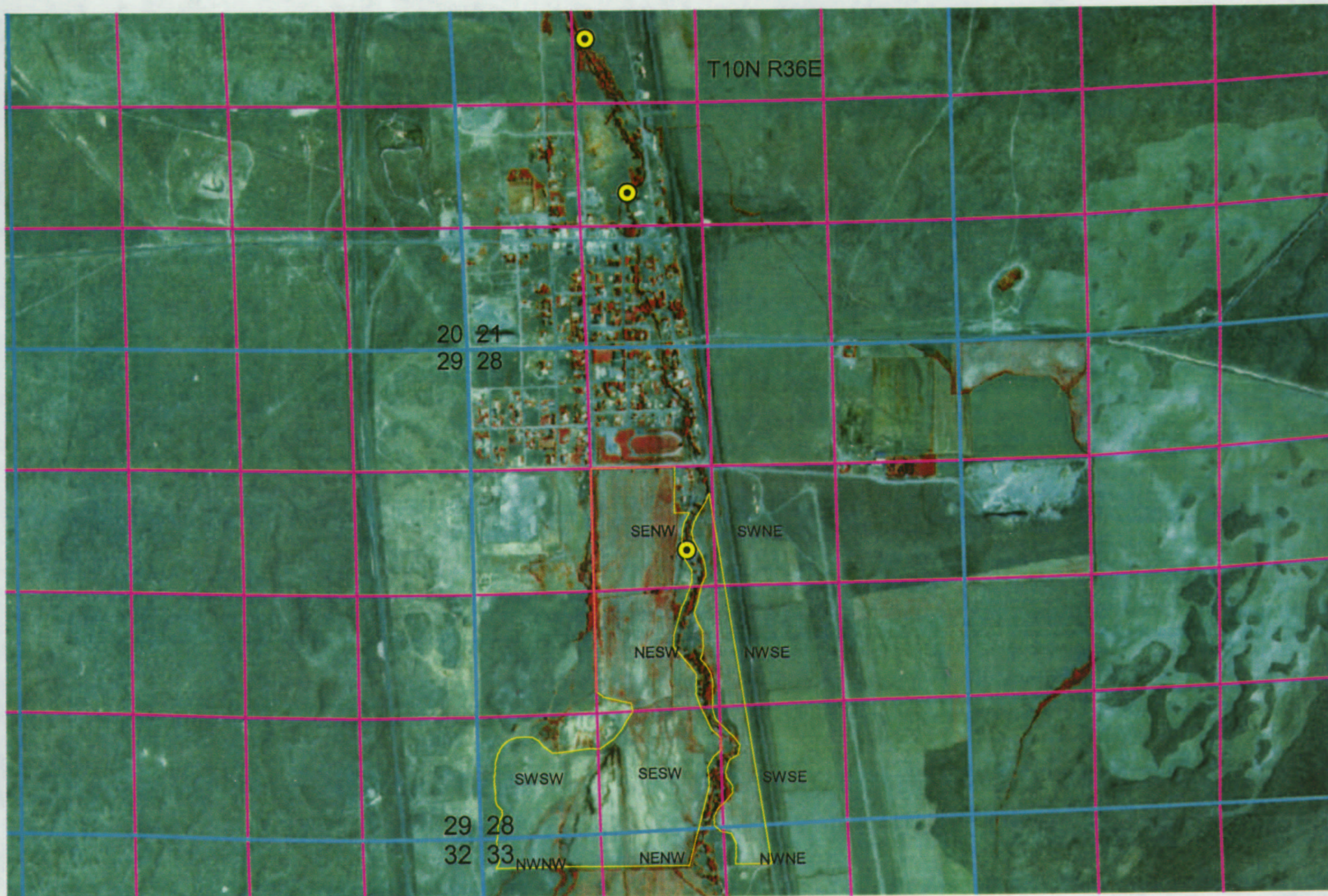




STATE OF IDAHO

Department of Water Resources

Water Right(s): **31-117**
 31-118A

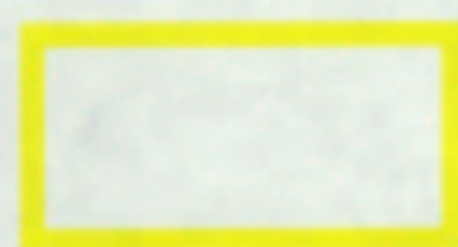


0 1320 2640 3960 5280 6600 Feet

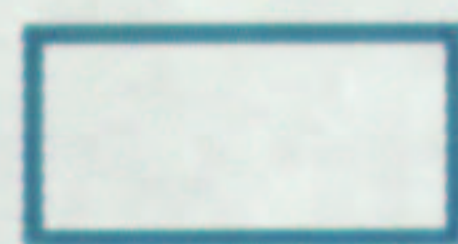
LEGEND



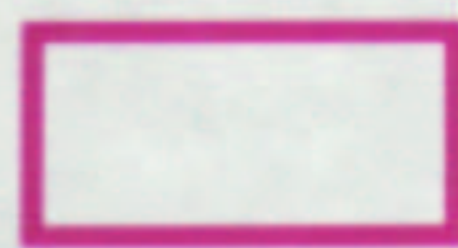
Point of Diversion



Place of Use

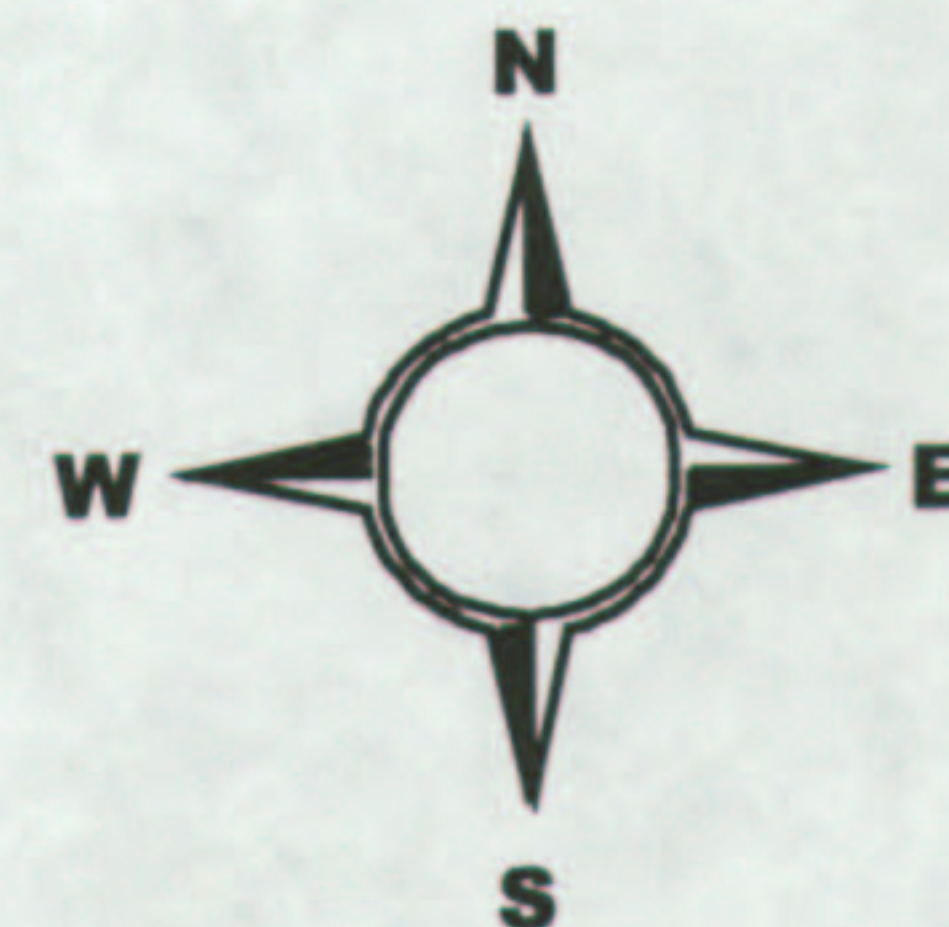


Section Line



Quarter-section line

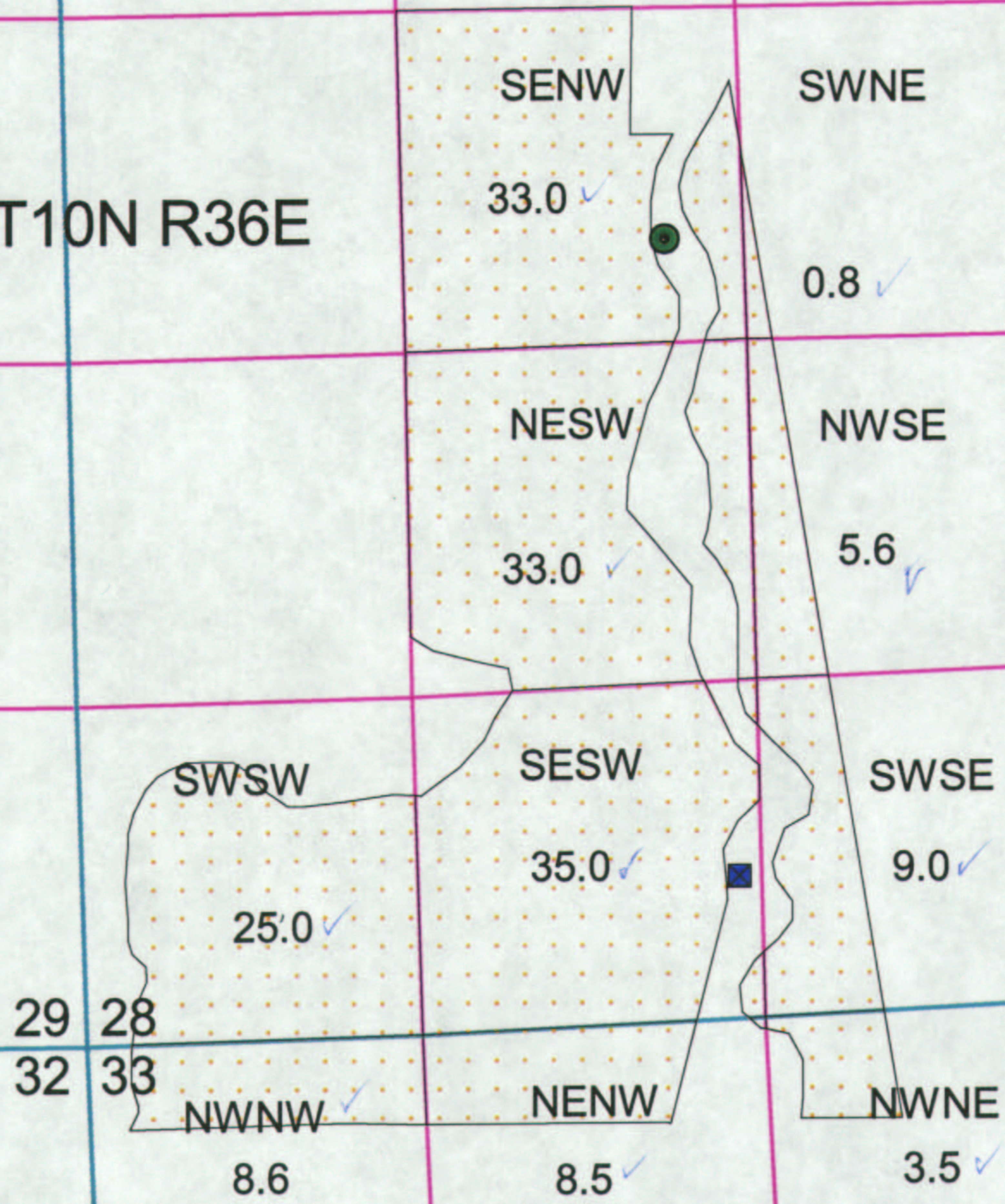
Acres Irrigated = 162



GIS Place of Use Illustration
1987/1988 NAPP photography
Prepared by: E. Carlsen
Date: December 2000

31-117, 31-118A, 31-119, 31-122A

T10N R36E



12/27/2000

IDAHO DEPARTMENT OF WATER RESOURCES
PRELIMINARY RECOMMENDATION OF WATER RIGHTS ACQUIRED UNDER STATE LAW

RIGHT NUMBER: 31-117

NAME AND ADDRESS: ROY LAIRD RANCHES
VALERIA MAXWELL
PO BOX 194
DUBOIS, ID 83423

JUDITH A WAGONER
3700 BROOKFIELD LANE
IDAHO FALLS, ID 83406

SOURCE: BEAVER CREEK TRIBUTARY: CAMAS CREEK

QUANTITY: 4.44 CFS

USE OF THE RIGHTS LISTED BELOW IS LIMITED TO A TOTAL
COMBINED DIVERSION RATE OF 9.41 CFS. COMBINED RIGHT NOS.: 31-
117, 31-118A, 31-119 & 31-122A.

PRIORITY DATE: 09/10/1892

POINT OF DIVERSION:	T10N R36E S21	SWSENW	Within CLARK County
	T10N R36E S21	SWNESW	Within CLARK County
	T10N R36E S28	SESENW	Within CLARK County

PURPOSE AND
PERIOD OF USE:

<u>PURPOSE OF USE</u>	<u>PERIOD OF USE</u>	<u>QUANTITY</u>
IRRIGATION	04-01 10-31	4.44 CFS
STOCKWATER	04-01 10-31	0.11 CFS

PLACE OF USE:

IRRIGATION Within CLARK County			
T10N R36E S28	SWNE	0.8	T10N R36E S28 SENW 33
T10N R36E S28	NESW	33	T10N R36E S28 SWSW 25
T10N R36E S28	SESW	35	T10N R36E S28 NWSE 5.6
T10N R36E S28	SWSE	9	T10N R36E S33 NWNE 3.5
T10N R36E S33	NENW	8.5	T10N R36E S33 NWNW 8.6

STOCKWATER Use same as IRRIGATION

162 ACRES TOTAL

USE OF THE RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION
OF A COMBINED TOTAL OF 162 ACRES IN A SINGLE IRRIGATION
SEASON. COMBINED RIGHT NOS.: 31-117, 31-118A, 31-119 & 31-
122A.

OTHER PROVISIONS NECESSARY FOR DEFINITION OR ADMINISTRATION OF THIS WATER RIGHT:

EXPLANATORY MATERIAL: BASIS OF CLAIM - Decreed

RIGHT INCLUDES ACCOMPLISHED CHANGE IN POINT OF DIVERSION
PURSUANT TO SECTION 42-1425, IDAHO CODE.

RIGHT INCLUDES ACCOMPLISHED CHANGE IN PLACE OF USE PURSUANT
TO SECTION 42-1425, IDAHO CODE.

IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE STATE OF IDAHO,
IN AND FOR THE COUNTY OF TWIN FALLS

IN RE THE GENERAL ADJUDICATION
OF RIGHTS TO THE USE OF WATER FROM
THE SNAKE RIVER BASIN WATER SYSTEM

CIVIL CASE NUMBER: 39576

Ident. Number 31-117
Date Received: 6/14/88
Receipt No:
Received By: *EO 26336*
9c

AMENDED NOTICE OF CLAIM TO A WATER RIGHT
ACQUIRED UNDER STATE LAW

1. Name of Claimant(s)

JUDITH A WAGONER Phone: (208)524-1346

3700 BROOKFIELD LANE
IDAHO FALLS ID USA 83406

VALERIA MAXWELL Phone: (208)754-5217

PO BOX 194
DUBOIS ID USA 83423

ROY LAIRD RANCHES Phone: (208)374-5563

PO BOX 194
DUBOIS ID USA 83423

2. Date of Priority: 09/10/1892

3. Source: BEAVER CREEK Trib. to: CAMAS CREEK

4. Point of Diversion:

Township	Range	Section	1/4 of 1/4 of 1/4 Lot	County
10N	36E	21	SW NE SW ✓	CLARK
10N	36E	21	SW SE NW ✓	CLARK
10N	36E	28	SE SE NW	CLARK ✓ 603.

5. Description of diverting works:

2 DAMS WITH HEADGATES (P/D #1 & #2), HEADGATE P/D #3

6. Water is used for the following purposes:

Purpose	From	To	C.F.S.	(or) A.F.A
IRRIGATION	04/15	10/15	4.44	
STOCKWATER	04/15	10/15	0.11	

7. Total Quantity Appropriated is:

4.44 C.F.S.

8. Total consumptive use:

9. Non-irrigation uses:

10. Place of use:

Township	Range	Section	1/4 of 1/4	Lot	Use	Acres
10N	36E	28	SE	SW	IRRIGATION	35
			NW	SE	IRRIGATION	5.5
			SW	NE	IRRIGATION	0.9
			SW	SE	IRRIGATION	8
			SW	SW	IRRIGATION	36
			SE	NW	IRRIGATION	30
			NE	SW	IRRIGATION	31
Section Acres						146.4
10N	36E	33	NW	NE	IRRIGATION	3.2
			NE	NW	IRRIGATION	8.7
			NW	NW	IRRIGATION	11
Section Acres						22.9
Total Acres						169.3

11. Place of use in counties: CLARK

12. Do you own the property listed above as place of use? Yes

13. Other Water Rights Used:

14. Remarks:

15. Basis of Claim: Decreed

16. Signature(s)

(a.) By signing below, I/We acknowledge that I/We have received, read and understand the form entitled "How you will receive notice in the Snake River Basin Adjudication." (b.) I/We do _____ do not _____ wish to receive and pay a small annual fee for monthly copies of the docket sheet.

Number of attachments: _____

For Individuals:

I/We do solemnly swear or affirm that the statements contained in the foregoing document are true and correct.

Signature of Claimant(s): Judith Hayner Date: 11/22/00
_____ Date: _____

For Organizations:

I do solemnly swear or affirm that I am _____ of
Title

_____, that I have signed the foregoing

Organization
document in the space below as _____ of

Title
_____ and that the statements contained in the
Organization
foregoing document are true and correct. _____

Signature of Authorized Agent

Title and Organization

Date

State of Idaho)
County of Bonneville) SS.

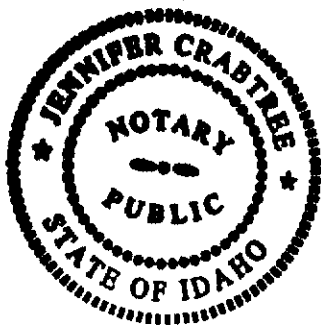
Subscribed and sworn (or affirmed) before me this
of Nov 2000

22nd
Jennifer Crabtree

Notary Public

Residing at Idaho Falls Id

My commission Expires 9/28/03



IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE STATE OF IDAHO,
IN AND FOR THE COUNTY OF TWIN FALLS

IN RE THE GENERAL ADJUDICATION
OF RIGHTS TO THE USE OF WATER FROM
THE SNAKE RIVER BASIN WATER SYSTEM.

CIVIL CASE NUMBER: 39576

Ident. Number: A31-00117
Date Received: 6/14/1988
Receipt No: 1000100
Received By: CA

NOTICE OF CLAIM TO A WATER RIGHT
ACQUIRED UNDER STATE LAW

1. Name: ROY LAIRD RANCHES 208-374-5217
Address: P.O. BOX 62
DUBOIS, ID 83423
OR
Name: JUDITH A. WAGONER 208-524-1346
Address: 3700 BROOKFIELD LANE
IDAHO FALLS, ID 83406
OR
Name: VALERIA MAXWELL 208-754-5217
Address: P.O. BOX 62
DUBOIS, ID 83423

2. Date of Priority: SEP 10, 1892

3. Source: BEAVER CREEK Trib. to: CAMAS CREEK

4. Point of Diversion:

Township	Range	Section	1/4 of	1/4 of	1/4 of	Lot	County
10N	36E	21	SW	SE	NW		CLARK
			SW	NE	SW		CLARK
		28	SE	SE	NW		CLARK

5. Description of diverting works:
2 DAMS WITH HEADGATES (P/D #1 & #2), HEADGATE P/D #3

6. Water is used for the following purposes:

Purpose	From	To	C.F.S.	(or)	A.F.A.
IRRIGATION	04/15	10/15	4.440		
STOCKWATER	04/15	10/15	0.110		

7. Total Quantity Appropriated is:
4.440 C.F.S. (and/or) A.F.A.

8. Total consumptive use is 310.0 Acre Feet Per Annum.

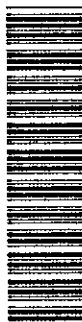
A31-00117

Page 1

Date: 06/14/88

MICROFILMED
NOV 17 1992

A3100117



9. Non-irrigation uses:

STOCKWATER/ 250 HEAD CATTLE, 1000 HEAD SHEEP.

10. Place of Use:

Township	Range	Section	1/4	of	1/4	Lot	Use	Acres		
10N	36E	27	SE		NW		STOCK			
			NE		SW		STOCK			
			NW		SW		STOCK			
			SW		SW		STOCK			
		28	SW		NW		IRR	1.0		
			SW		NW		STOCK			
			SE		NW		IRR	20.0		
			SE		NW		STOCK			
			NE		SW		IRR	20.0		
			NE		SW		STOCK			
			NW		SW		IRR	2.0		
			NW		SW		STOCK			
			SW		SW		IRR	28.0		
			SW		SW		STOCK			
			SE		SW		IRR	36.0		
			SE		SW		STOCK			
			NW		SE		IRR	1.0		
			NW		SE		STOCK			
			SW		SE		IRR	1.0		
			SW		SE		STOCK			
			Section Acres							109.0
			33	NW		NE		IRR	2.0	
				NW		NE		STOCK		
				NE		NW		IRR	6.0	
		NE			NW		STOCK			
		NW			NW		IRR	7.0		
		NW			NW		STOCK			
		Section Acres							15.0	
		Total Acres							124.0	

11. Place of use in counties: CLARK

12. Do you own the property listed above as place of use? YES

13. Other Water Rights Used:

31-0118, 31-0119, 31-0120, 31-0122.

14. Remarks:

15. Basis of Claim: DECREED

Water Right Number:

Case Number:

Court :

Decree date:

ERNEST SAUVE

Decree Plaintiff

vs

W. H. ABBOTT

Decree Defendant

16. Signature(s)

(a.) By signing below, I/We acknowledge that I/We have received, read and understand the form entitled "How you will receive notice in the Snake River Basin Adjudication." (b.) I/We do do not wish to receive and pay a small annual fee for monthly copies of the docket sheet.

Number of attachments: /

For Individuals:

I/We do solemnly swear or affirm that the statements contained in the foregoing document are true and correct.

Signature of Claimant(s): *Julius A. Meyers* Date: 6/14/88
_____ Date: _____

For Organizations:

I do solemnly swear or affirm that I am _____ of
_____ Title
_____, that I have signed the foregoing
Organization
document in the space below as _____ of
_____ Title
_____ and that the statements contained in the
Organization
foregoing document are true and correct.

Signature of Authorized Agent

Title and Organization

Date

State of Idaho)
County of Clark) ss.

Subscribed and sworn (or affirmed) before me this 14th day

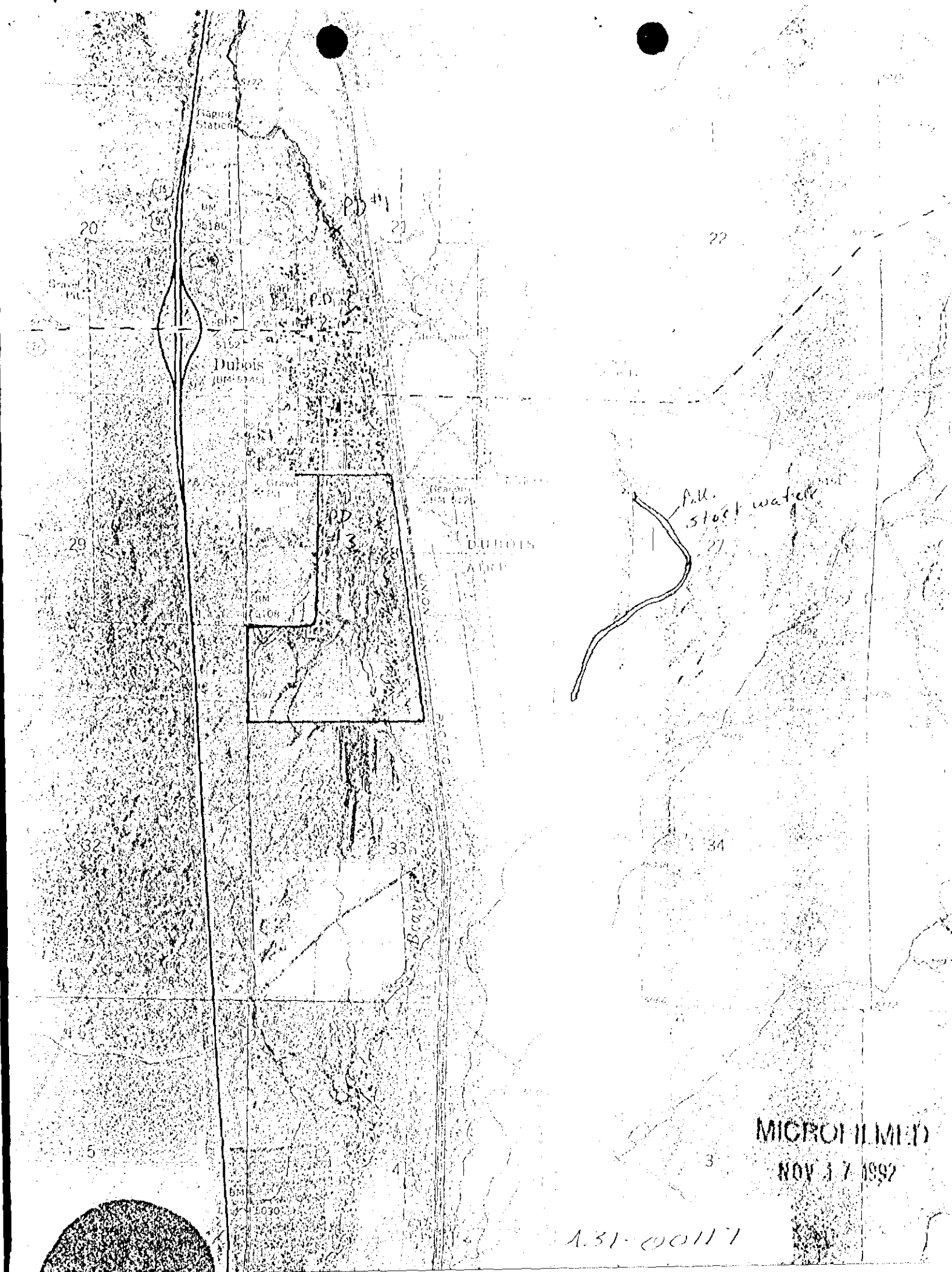
of June 19 88

Seal

Carter Fritschle
Notary Public

Residing at Eagle, Id

My Commission Expires 3-21-94



MICROFILMED
NOV 17 1992

431-00117



STATE OF IDAHO

Department of Water Resources

Water Right(s): 31-117
31-118A



LEGEND



Point of Diversion

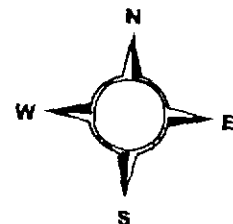
Place of Use

Section Line



Quarter-section line

Acres Irrigated :: 162



GIS Place of Use Illustration
1987/1988 NAPP photography
Prepared by: E. Carlsen
Date: December 2000

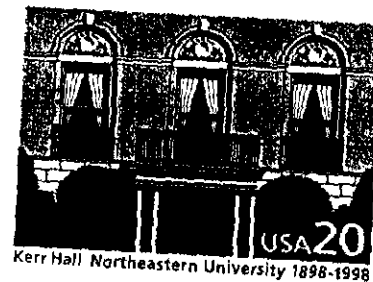
DEAR SIR OR MADAM:

WATER RIGHT NUMBERS A31-00117, A31-00118, A31-00119 AND
A31-00120 HAVE BEEN CHANGED TO REFLECT THE ADDRESS ON THE
FRONT OF THIS CARD.

RESPECTFULLY SUBMITTED;

Cheri Vandermeulen

CHERI VANDERMEULEN
RECORDS CLERK
DEPARTMENT OF WATER RESOURCES



ROY LAIRD RANCHES
PO BOX 194
DUBOIS ID 83423-0194



State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, P.O. Box 83720, Boise, Idaho 83720-0098

Phone: (208) 327-7900 FAX: (208) 327-7866

June 8, 2000

DIRK KEMPTHORNE
GOVERNOR

KARL J. DREHER
DIRECTOR

Roy Laird Ranches
PO Box 194
Dubois, ID 83423-0194

P.O. Box 62
Dubois, Id

RE: Snake River Basin Adjudication (SRBA)
Water Rights #31-07273, A31-00117, A31-00118, A31-00119
& A31-00120

83423

208-751-5017

Dear Water Right Holder:

Mail recently sent to you was returned to us by the Postal Service. They also advised us your address has changed to the above address. We have enclosed the returned mail.

Although we have reached you at the address above, we need your written confirmation this is your correct mailing address before we can change our records.

Please sign your name at the bottom of this letter and return it to this office. Make corrections to your name and address if necessary before returning this letter, list any other water rights you have, and return this letter by June 22, 2000. Thank you for your help.

If your mail delivery address changes in any form, please contact us in writing so we can update our records. Be sure to list your water right numbers.

If there has been a change in ownership of the property connected with the water rights referenced above, please call this office toll-free at 1/800-451-4129 to obtain a form to make this required change to the water right records.

Sincerely,

Sally Sherman
Technical Records Specialist
Adjudication Bureau

SS:region

Enclosure:

Returned Mail

#####

The address is correct as shown above or as otherwise changed.

Water Right Holder's Signature

Telephone No.

1-208-374-5563

IDAHO DEPARTMENT OF WATER RESOURCES
ADJUDICATION CLAIM PROFILE REPORT
(REGIONAL)

OWNER CODE	NAME & ADDRESS	PRIORITY DATE	WATER USE	USE PERIOD FROM TO	DIVERSION RATE	DIVERSION VOLUME
C	VALERIA MAXWELL PO BOX 62 DUBOIS ID 83423 (208) 754-5217	09/10/1892	IRRIGATION STOCKWATER	04-15 10-15 04-15 10-15	4.440 CFS 0.110 CFS	
				TOTAL DIVERSION: CONSUMPTIVE USE:	4.440 CFS	310.00 AFA
C	ROY LAIRD RANCHES PO BOX 194 DUBOIS ID 83423 (208) 374-5563					
C	JUDITH A WAGONER 3700 BROOKFIELD LANE IDAHO FALLS ID 83406 (208) 524-1346					

Water Source: BEAVER CREEK

Tributary to: CAMAS CREEK

Stage: DECREED

Point(s) of Diversion: T10N R36E S21 SWSSEW SWNESW CLARK County
S28 SESEW CLARK County

Place of use Legal Description for: IRRIGATION

				NE				NW				SW				SE					
T	R	S	:	Lt	Ac	Lt	Ac	Lt	Ac	Lt	Ac	Lt	Ac	Lt	Ac	Lt	Ac	Lt	Ac	:	SUM
10N	36E	28	:											20	02	28	36				109.0
10N	36E	33	:			02				06	07										15.0
																			TOTAL ACRES	124.0	

Place of use Legal Description for: STOCKWATER

				NE				NW				SW				SE					
T	R	S	:	Lt	Ac	Lt	Ac	Lt	Ac	Lt	Ac	Lt	Ac	Lt	Ac	Lt	Ac	Lt	Ac	:	
10N	36E	27	:											S		S	S	S			
10N	36E	28	:									S	S	S	S			S	S		
10N	36E	33	:			S				S	S										

POU County: CLARK

Non-Irrigation Uses: STOCKWATER/ 250 HEAD CATTLE, 1000 HEAD SHEEP.

Other Rights: 31-0118, 31-0119, 31-0120, 31-0122.

Remarks: GEN CHANGED ADDRESS PER REQUEST CV/06-13-00

RECEIVED

FEB 09 2001

01/16/2001

Department of Water Resources
Eastern Region

NOTICE OF ERROR
REPLY

Please type or print clearly, fill out this form completely and mail.

Return this reply form to IDWR by the deadline date printed below if you want IDWR to change your recommendation or you want to let IDWR know that you agree with its recommendation.

YOUR DEADLINE FOR RETURNING A NOTICE OF ERROR REPLY IS: March 9, 2001

Water right number: 31-117

ROY LAIRD RANCHES
VALERIA MAXWELL

PO BOX 194
DUBOIS, ID 83423

Daytime Telephone Number: (208)374-5563

Evening Telephone Number:

JUDITH A WAGONER
3700 BROOKFIELD LN
IDAHO FALLS, ID 83406

Daytime Telephone Number:

Evening Telephone Number: (208)524-1346

1. Describe the portion of the proposed recommendation with which you disagree (e.g. priority date, period of use, source):

2. Describe the changes you wish to make in the proposed recommendation:

3. Give a brief explanation as to why you disagree with these portions:

☒ I AGREE with this proposed recommendation: no changes need to be made.

DATE:

Feb 9, 01

SIGNATURE:

Valeria J. Maxwell

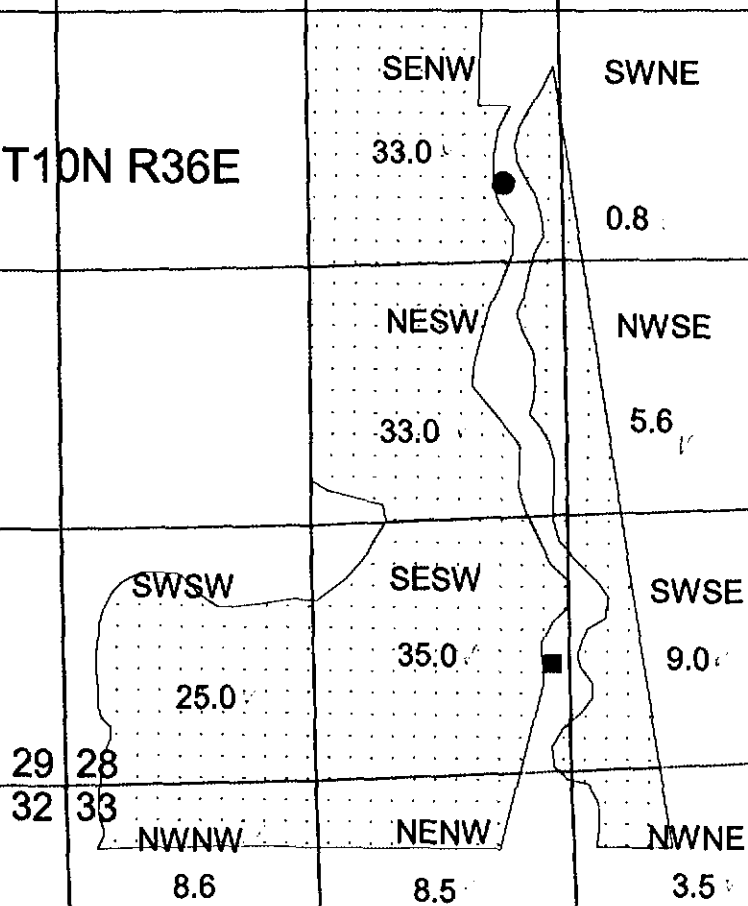
Please print your name:

Valeria J. Maxwell

IDWR Regional Office, 900 N Skyline, Idaho Falls, ID 83402, (208) 525-7161

31-117, 31-118A, 31-119, 31-122A

T10N R36E



Total Ac 162

FIELD IRRIGATION REQUIREMENT

initials: Claimant = 31-117, 31-118A, 31-119 & 31-122A

date: Weather Station = Malta

crop	acres	irrig. system	eff. (%)	mar	apr	may	Monthly ET (mm/day)					AVE IR season (mm/yr)	net irrig. app. (in)
							jun	jul	aug	sep	oct		
PASTURE	169	COR	28.5		1.47	4.23	5.84	6.35	5.01	3.78	2.48		1.74

Summary 169

Peak Gross Irrigation Application (mm/day) =	24.95
On-Farm Irrigation Requirement (cfs/acre) =	0.041
Total On-Farm Irrigation Requirement (cfs) =	6.97
Irrigation Diversion Volume (ft/yr) =	0.00
Total Irrigation Diversion Volume (ac-ft/yr) =	0

FIELD IRRIGATION REQUIREMENT

initials: Claimant = 31-117, 31-118A, 31-119 & 31-122A

date: Weather Station = Malta

crop	acres	irrig. system	eff. (%)	mar	apr	may	Monthly ET (mm/day)			
							jun	jul	aug	sep
PASTURE	169	COR	28.5		1.47	4.23	5.84	6.35	5.01	3.78

Summary 169

Peak Gross Irrigation Application (mm/day) =	24.95
On-Farm Irrigation Requirement (cfs/acre) =	0.041
Total On-Farm Irrigation Requirement (cfs) =	6.97
Irrigation Diversion Volume (ft/yr) =	0.00
Total Irrigation Diversion Volume (ac-ft/yr) =	0

1
0
0
0
0
0
0
0
0
0
0

oct	AVE IR season (mm/yr)	net		irrig. freq. (days)	Gross Irrigation Application (peak period ET/eff. in mm/day)					
		irrig. app. (in)	ET ratio		mar	apr	may	jun	jul	aug
	2.48	1.74	1.12	6.2		5.78	16.62	22.95	24.95	19.69

5.78	16.62	22.95	24.95	19.69
------	-------	-------	-------	-------

0	1.14	0	5.7768	16.6232	22.9502	24.9544	19.6884
1	1.14	0	0	0	0	0	0
1.17	1.13	0	0	0	0	0	0
1.51	1.12	0	0	0	0	0	0
1.84	1.11	0	0	0	0	0	0
2.26	1.1	0	0	0	0	0	0
2.76	1.09	0	0	0	0	0	0
3.26	1.08	0	0	0	0	0	0
3.76	1.07	0	0	0	0	0	0
4.26	1.06	0	0	0	0	0	0
4.76	1.05						
5.51	1.04						
6.51	1.03						
7.51	1.02						

sep	oct	season (mm/yr)
14.85	9.75	

14.85 9.75

[illegible]

80th Percentile Values of Monthly ET (mm/day)

Station: Dubois Exp. Station

		ETR	ALFH	ALFS	BEANS	F CRN	SILGE	S CRN	PEAS	POTAT	SBEET	SGRAN	WGRAN	PAST	ORCHD	VEGES	ONION	HOPS
March	AVE ET	0.66		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00
March	STDD ET	0.48		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00
March	80PCT ET	1.06	U	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.00
			S															
April	AVE ET	3.83	E	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.11	1.30	0.00	0.00	0.00	0.00
April	STDD ET	0.60		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.20	0.00	0.00	0.00	0.00
April	80PCT ET	4.34		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.39	1.47	0.00	0.00	0.00	0.00
			E															
May	AVE ET	5.59	T	0.00	0.00	0.00	1.68	0.00	1.80	1.68	0.00	1.72	5.31	3.90	2.40	0.00	0.00	0.00
May	STDD ET	0.56	R	0.00	0.00	0.00	0.17	0.00	0.18	0.17	0.00	0.17	0.53	0.39	0.24	0.00	0.00	0.00
May	80PCT ET	6.06		0.00	0.00	0.00	1.82	0.00	1.95	1.82	0.00	1.86	5.76	4.23	2.60	0.00	0.00	0.00
June	AVE ET	7.13	F	0.00	0.00	0.00	2.19	0.00	4.99	2.92	0.00	5.03	7.13	5.49	4.81	0.00	0.00	0.00
June	STDD ET	0.54	O	0.00	0.00	0.00	0.17	0.00	0.38	0.22	0.00	0.38	0.54	0.42	0.37	0.00	0.00	0.00
June	80PCT ET	7.58	R	0.00	0.00	0.00	2.33	0.00	5.31	3.11	0.00	5.35	7.58	5.84	5.12	0.00	0.00	0.00
July	AVE ET	7.95		0.00	0.00	0.00	5.28	0.00	5.58	6.40	0.00	7.91	7.95	6.12	6.68	0.00	0.00	0.00
July	STDD ET	0.35	A	0.00	0.00	0.00	0.23	0.00	0.24	0.28	0.00	0.35	0.35	0.27	0.29	0.00	0.00	0.00
July	80PCT ET	8.24	L	0.00	0.00	0.00	5.47	0.00	5.78	6.64	0.00	8.20	8.24	6.35	6.92	0.00	0.00	0.00
			F															
August	AVE ET	6.22	A	0.00	0.00	0.00	5.91	0.00	1.51	5.07	0.00	5.25	4.23	4.79	5.28	0.00	0.00	0.00
August	STDD ET	0.33	L	0.00	0.00	0.00	0.32	0.00	0.08	0.27	0.00	0.28	0.23	0.26	0.28	0.00	0.00	0.00
August	80PCT ET	6.50	F	0.00	0.00	0.00	6.18	0.00	1.58	5.30	0.00	5.49	4.42	5.01	5.52	0.00	0.00	0.00
			A															
September	AVE ET	4.53		0.00	0.00	0.00	3.91	0.00	0.00	3.22	0.00	0.97	0.00	3.49	3.85	0.00	0.00	0.00
September	STDD ET	0.45		0.00	0.00	0.00	0.39	0.00	0.00	0.32	0.00	0.10	0.00	0.34	0.38	0.00	0.00	0.00
September	80PCT ET	4.91	H	0.00	0.00	0.00	4.24	0.00	0.00	3.49	0.00	1.05	0.00	3.78	4.17	0.00	0.00	0.00
			A															
October	AVE ET	2.89	Y	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.23	2.25	0.00	0.00	0.00
October	STDD ET	0.39		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.30	0.00	0.00	0.00
October	80PCT ET	3.22		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.48	2.50	0.00	0.00	0.00

ET and standard deviation data (AVE ET and STDD ET) taken from Appendix E (unpublished) of Brockway, C.E., and R.G. Allen, 1983, Estimating Consumptive Irrigation Requirements for Crops in Idaho, Idaho Water and Energy Resources Research Institute.

80th Percentile ET values (80PCT ET) calculated based on Walpole, R.E., and R.H. Meyers, 1985, third edition, PROBABILITY AND STATISTICS FOR ENGINEERS AND SCIENTISTS, New York: Macmillan Publishing Company, pp. 132-144 and 574.

Field #5.

Pasture.

INTAKE FAMILY	DESIGN APPLIC.	FURROW SLOPE	FURROW SPACING	FURROW LENGTH	INFLOW RATE	APPROXIMATE INFLOW TIME	ADVANCE TIME	GROSS IRRIGATION	NET IRRIGATION	RUNOFF	DEEP PERC.	IRRIGATION EFFICIENCY
								APPLICATION	APPLICATION			
	Inches	Ft/Ft	Feet	Feet	Gpm	Hours	Minutes	Inches	Inches	Inches	In.	%
0.70	1.74	.012	2.00	1550	18.5	12	185.7	6.89	5.93	0.00	5.15	25.24
0.70	1.74	.012	2.00	775	10.0	12	85.0	7.45	5.89	1.19	4.52	23.35
0.70	1.74	.012	2.00	775	8.0	12	111.8	5.96	5.46	0.01	4.21	29.19
0.70	1.74	.012	2.00	775	7.0	24	135.9	10.43	9.40	0.54	8.15	16.68
0.70	2.58	.012	2.00	1550	18.5	12	185.7	6.89	5.93	0.00	4.31	37.43
0.70	2.58	.012	2.00	1550	15.5	24	233.6	11.55	10.43	0.11	8.86	22.34
0.70	2.58	.012	2.00	775	8.0	12	111.8	5.96	5.46	0.01	3.37	43.28-
0.70	2.58	.012	2.00	775	7.0	24	135.9	10.43	9.40	0.54	7.31	24.73
0.70	2.58	.012	2.00	775	9.0	8	96.0	4.47	3.99	0.02	1.87	57.71
0.70	1.74	.012	2.00	775	9.0	8	96.0	4.47	3.99	0.02	2.71	38.92-
0.70	2.58	.012	2.50	775	9.0	8	96.0	3.58	3.19	0.02	0.98	72.14

For pasture -

INTAKE FAMILY	DESIGN APPLIC. Inches	FURROW SLOPE Ft/Ft	FURROW SPACING Feet	FURROW LENGTH Feet	INFLOW RATE Gpm	APPROXIMATE INFLOW TIME Hours	ADVANCE TIME Minutes	I A
0.70	2.58	.007	2.50	850	10.0	12	150.3	
0.70	2.58	.007	2.50	850	9.5	12	163.3	
0.70	2.58	.007	2.50	800	9.0	12	152.1	49.64
0.70	2.58	.007	2.50	750	8.5	12	140.8	
0.70	2.58	.007	2.50	700	7.5	12	144.5	52.12
0.70	2.58	.007	2.50	600	6.5	12	121.5	
0.70	2.58	.007	2.50	660	7.0	12	138.6	
0.70	2.58	.012	2.50	660	7.0	12	91.8	52.66

Field #8.

INTAKE FAMILY	DESIGN APPLIC.	FURROW SLOPE	FURROW SPACING	FURROW LENGTH	INFLOW RATE	APPROXIMATE INFLOW TIME	ADVANCE TIME	GROSS	NET	DEEP PERC.	IRRIGATION EFFICIENCY
								IRRIGATION APPLICATION	IRRIGATION APPLICATION		
	Inches	Ft/Ft	Feet	Feet	Gpm	Hours	Minutes	Inches	Inches	Inches	%
0.70	1.74	.009	2.00	1160	13.5	12	172.9	6.72	5.80	0.03	25.89
0.70	1.74	.009	2.00	1160	13.5	12	172.9	6.72	5.80	0.03	25.89
0.70	1.74	.009	2.00	900	10.0	12	143.4	6.42	5.65	0.08	27.12
0.70	1.74	.009	2.00	1050	10.0	24	213.8	11.00	9.91	0.20	15.82
0.70	2.58	.009	2.50	1160	10.0	12	282.7	3.98	4.52	0.06	50.26
0.70	2.58	.009	2.50	900	10.0	12	143.4	5.13	4.52	0.06	50.26
0.70	2.58	.009	2.50	950	10.0	24	164.3	9.73	8.17	1.03	26.53

Pasture .7% slope.
1.2%.

INTAKE	DESIGN	FURROW	FURROW	FURROW	INFLOW	APPROXIMATE	ADVANCE	GROSS	NET		DEEP	IRRIGATION
FAMILY	APPLIC.	SLOPE	SPACING	LENGTH	RATE	INFLOW TIME	TIME	IRRIGATION	IRRIGATION	RUNOFF	PERC.	EFFICIENCY
	Inches	Ft/Ft	Feet	Feet	Gpm	Hours	Minutes	Inches	Inches	Inches	In.	%
0.70	1.74	.009	2.00	1160	13.5	12	172.9	6.72	5.80	0.03	4.95	25.89
0.70	1.74	.009	2.00	900	10.0	12	143.4	6.42	5.65	0.08	4.60	27.12
0.70	1.74	.007	2.00	800	9.0	12	152.1	6.50	5.61	0.13	4.62	26.78
0.70	1.74	.007	2.00	700	7.5	12	144.5	6.19	5.46	0.04	4.41	28.12
0.70	1.74	.007	2.00	600	6.5	12	121.5	6.26	5.46	0.24	4.28	27.81
0.70	1.74	.007	2.00	800	10.0	8	129.0	4.81	4.04	0.07	3.00	36.16
0.70	1.74	.007	2.00	750	9.5	8	118.6	4.88	4.08	0.16	2.98	35.68
0.70	1.74	.007	2.00	700	8.5	8	117.9	4.67	3.99	0.06	2.87	37.22
0.70	1.74	.007	2.00	660	8.0	8	111.4	4.67	3.99	0.09	2.83	37.29
		.007		660	7.0	12	138	6.12	5.42	0.05	4.34	28.41
		.008					123			0.11	4.28	28.41
		.009					112			0.16	4.23	28.41
		.010					104			0.20	4.18	28.41
		.011					97.4			0.25	4.14	28.41
		.012					91.8			0.29	4.10	28.41

0.70 1.74 .007 600 7.0 8 107.5 4.49 3.91 0.03 2.72 38.74
.008 97.0 0.07 2.68 38.74

~~2.58 .007 850 10. 12 150. 5.44 4.60 0.23 2.62 47.47.~~
~~9.5 163 0.03 2.55 49.47.~~

SOIL CHARACTERISTICS

initials:

emc

date: November 30, 2000

Soil Type = Buist

Source of Soils Data =

soil depth (inches)		AWC (in/in)		PH		organic (%)		soil depth (ft)	AWC (inches)	intake family	
lower	upper	lower	upper	lower	upper	lower	upper			flood	furrow
0	2	0.12	0.16	6.6	7.8	2	4	1	1.53	3	0.7
2	17	0.09	0.16					2	2.65		
17	37	0.04	0.1					3	3.49		
37	61	0.04	0.1					4	4.33	alternate	
								5	5.17	method	

2 2.56
NA NA.

Management Allowed Deficit (MAD)

crop	root depth (ft)	stress point	MAD (inches)
alfalfa (hay or seed)	5	0.5	2.58
corn (field or silage)	4	0.5	2.16
grain (winter or spring)	4	0.5	2.16
pasture (or grass hay)	3	0.5	1.74
other (enter below)			
turf	1	0.5	0.77
orchard	5	0.5	2.58

FURROW SPACING.

2.5'

2.0'

2.0'

#1
26 ac
.7% slope
1358 ft run

#2
23 ac
.8 % slope
1150 ft run

#6
7.7 ac
.7 % slope
1030 ft run

#3
6 ac
.6% slope #7
1100 ft run 4.3 ac
.9% slope
777 ft run

#5
27 ac
1.2% slope
1550 ft run

#4
50 ac
.9 to 1.1 % slope
1640 ft run

#8
11 ac
.9% slope
1160 ft run

N

INTAKE	DESIGN	FURROW	FURROW	FURROW	INFLOW	APPROXIMATE	ADVANCE	GROSS	NET		DEEP	IRRIGATION
FAMILY	APPLIC.	SLOPE	SPACING	LENGTH	RATE	INFLOW	TIME	IRRIGATION	IRRIGATION	RUNOFF	PERC.	EFFICIENCY
	Inches	Ft/Ft	Feet	Feet	Gpm	Hours	Minutes	Application	Application	Inches	In.	%
0.70	1.74	1.200	2.00	1550	10.0	12	70.7	3.73	9.44	0.28	8.38	16.72
0.70	1.74	1.200	2.00	775	6.0	12	34.1	4.47	4.15	0.24	2.49	38.92
0.70	1.74	1.200	2.00	775	5.0	24	35.3	7.45	6.98	0.40	5.31	23.35

Field #1

pasture

INTAKE FAMILY	DESIGN APPLIC.	FURROW SLOPE	FURROW SPACING	FURROW LENGTH	INFLOW RATE	APPROXIMATE INFLOW TIME	ADVANCE TIME	GROSS	NET	DEEP PERC.	IRRIGATION EFFICIENCY
								IRRIGATION APPLICATION	IRRIGATION APPLICATION		
	Inches	Ft/Ft	Feet	Feet	Gpm	Hours	Minutes	Inches	Inches	Inches	%
0.70	2.58	.007	2.50	700	10.0	12	93.8	6.60	4.94	1.31	39.09
0.70	2.58	.007	2.50	700	7.5	12	144.5	4.95	4.37	0.03	52.12
0.70	2.58	.007	2.50	700	6.5	24	188.5	8.58	7.57	0.41	30.07
0.70	1.74	.007	2.00	700	10.0	12	93.8	8.25	6.17	1.63	21.09
0.70	1.74	.007	2.00	700	7.5	12	144.5	6.19	5.46	0.04	28.12
0.70	1.74	.007	2.00	700	6.5	24	188.5	10.72	9.46	0.51	16.22

Field #2

pasture

INTAKE	DESIGN	FURROW	FURROW	FURROW	INFLOW	APPROXIMATE	ADVANCE	GROSS	NET		DEEP	IRRIGATION
FAMILY	APPLIC.	SLOPE	SPACING	LENGTH	RATE	INFLOW TIME	TIME	IRRIGATION	IRRIGATION	RUNOFF	PERC.	EFFICIENCY
	Inches	Ft/Ft	Feet	Feet	Gpm	Hours	Minutes	Inches	Inches	Inches	In.	%
0.70	1.74	.008	2.00	700	10.0	12	86.2	8.25	6.14	1.71	4.80	21.09
0.70	1.74	.008	2.00	700	7.5	12	129.2	6.19	5.49	0.10	4.35	28.12

Field #7

pasture.

INTAKE FAMILY	DESIGN APPLIC.	FURROW SLOPE	FURROW SPACING	FURROW LENGTH	INFLOW RATE	APPROXIMATE INFLOW TIME	ADVANCE TIME	GROSS	NET	DEEP PERC.	IRRIGATION EFFICIENCY
								IRRIGATION APPLICATION	IRRIGATION APPLICATION		
		Inches	Ft/Ft	Feet	Gpm	Hours	Minutes	Inches	Inches	Inches	In.
0.70	1.74	.009	2.00	777	10.0	12	101.3	7.43	5.95	1.01	23.41
0.70	1.74	.009	2.00	777	8.5	12	126.7	6.32	5.58	0.15	27.54
0.70	1.74	.009	2.00	777	7.0	24	174.5	10.40	9.44	0.28	16.72

Carlsen, Ernie

From: Carlsen, Ernie
Sent: Thursday, November 30, 2000 4:57 PM
To: King, Scott
Cc: Carlsen, Ernie
Subject: RE: Soil Map

I finally caught up with Darwin and he gave me the following info for the same soil type from Butte County.
Information was not published for this soil type in Clark.
Again this is for the BKB, Guist, on the soil map.

soil depth (inches)		AWC (in/in)		PH		Organic (%)	
lower	upper	lower	upper	lower	upper	lower	upper
0	2	0.12	0.16	6.6	7.8	2	4
2	17	0.09	0.16	6.6	8.4	1	3
17	37	0.04	0.10	7.4	9.0	>1	
37	61	0.04	0.10	7.9	9.0		

Ernie

LOCATION BUIST
Established Series
Rev. SM/JD/CLM/RWL
05/2000

ID

BUIST SERIES

The Buist series consists of very deep, well drained soils formed in alluvium with some loess and silty alluvium from loess influence on fan terraces, foothills and mountain slopes. Slopes are 0 to 60 percent. Permeability is moderate. Average annual precipitation is about 15 inches and the average annual air temperature is about 43 degrees F.

TAXONOMIC CLASS: Loamy-skeletal, mixed, superactive, frigid Calcic Haploxerolls

TYPICAL PEDON: Buist gravelly silt loam, irrigated cropland; on a 1 percent slope at 6,200 feet elevation. When described on May 21, 1984, the soil was moist throughout. (Color is for air dry soil unless otherwise noted.)

Ap1--0 to 2 inches; brown (10YR 5/3) gravelly silt loam, dark brown (10YR 3/3) moist; weak medium platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine, common medium and few coarse roots; many very fine irregular pores; 15 percent gravel and 5 percent cobbles; slightly alkaline (pH 7.4); abrupt smooth boundary. (2 to 5 inches thick)

Ap2--2 to 10 inches; dark brown (10YR 4/3) cobbly silt loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine, common medium and few coarse roots; many very fine irregular pores; 10 percent gravel and 15 percent cobbles; slightly alkaline (pH 7.7); abrupt smooth boundary. (6 to 10 inches thick)

BA--10 to 17 inches; dark brown (10YR 4/3) cobbly silt loam, dark brown (10YR 3/3) moist; moderate medium and coarse subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine, common medium and few coarse roots; few very fine irregular pores; 10 percent gravel and 20 percent cobbles; slightly alkaline (pH 7.7); clear wavy boundary. (0 to 7 inches thick)

Bk1--17 to 23 inches; yellowish brown (10YR 5/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; weak medium and coarse angular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and few fine and medium roots; common very fine irregular pores; 30 percent gravel, 10 percent cobbles; slightly effervescent; lime is disseminated; slightly alkaline (pH 7.8); clear wavy boundary. (6 to 8 inches thick)

Bk2--23 to 33 inches; light yellowish brown (10YR 6/4) extremely gravelly loam, dark yellowish brown (10YR 4/4) moist; weak coarse subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine irregular pores; 60 percent gravel, 30 percent cobbles and 5 percent stones; strongly effervescent; 15 percent of the coarse fragments have lime coats on the undersides; moderately alkaline (pH 8.1); abrupt wavy boundary. (10 to 15 inches thick)

Bk3--33 to 37 inches; pale brown (10YR 6/3) extremely gravelly loam, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine tubular pores; 60 percent gravel and 30 percent cobbles;

violently effervescent; 1/8 inch thick lime coatings on the undersides of coarse fragments; moderately alkaline (pH 8.1); clear wavy boundary. (3 to 10 inches thick) **Bk4**--37 to 60 inches; white (10YR 8/2) extremely gravelly sandy loam, very pale brown (10YR 7/4) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine tubular pores; 50 percent gravel, 30 percent cobbles and 5 percent stones; violently effervescent; there are many 1/8 inch thick lime coatings on coarse fragments; moderately alkaline (pH 8.3).

TYPE LOCATION: Bear Lake County, Idaho; about 1/2 mile north of the natural gas metering station; about 2,100 feet east and 2,350 feet north of the southwest corner of sec. 15, T.10 S., R.43 E. Latitude - 42 degrees, 33 minutes, 10 seconds N.; Longitude - 111 degrees, 25 minutes, 05 seconds W.

RANGE IN CHARACTERISTICS:

Thickness of Mollic epipedon - 8 to 19 inches

Depth to secondary lime - 8 to 19 inches

Calcium carbonate equivalent in the calcic horizon - 15 to 40 percent

Average annual soil temperature - 40 to 45 degrees F

Particle size control section

Clay content - averages 5 to 18 percent

Rock fragment content - averages 35 to 75 percent

A horizons

Value - 3 through 5 dry, 2 or 3 moist

Chroma - 2 or 3 dry or moist

Reaction - neutral to slightly alkaline

BA horizon

Value - 4 through 7 dry, 3 through 7 moist

Chroma - 2 through 4 dry or moist

Texture - GR-SIL, CB-SIL, GR-L, GRV-L, L

Rock fragments - 10 to 45 percent

Reaction - neutral through moderately alkaline

Bk1 horizon

Hue - 10YR or 7.5YR

Value - 5 to 7 dry, 3 to 6 moist

Chroma - 1 to 4 dry or moist

Texture - GR-SIL, GRV-SIL, CB-SIL, GR-L, GRV-L, CB-L, CBV-SIL

Rock fragments - 20 to 50 percent

Effervescence - moderate or strong Reaction - slightly or moderately alkaline

Bk2, Bk3 and Bk4 horizons

Hue - 10YR or 7.5YR

Value - 5 through 8 dry, 4 through 6 moist

Chroma - 1 through 4 dry or moist

Texture - GRV-L, GRX-L, GRX-FSL, GRV-SL, GRX-SL, CBV-FSL, CBX-FSL, STV-L, STV-FSL

Rock fragments - 35 to 95 percent

Effervescence - strong or violent

Reaction - moderately or strongly alkaline

COMPETING SERIES: These are the Conneridge, Dagan, Hondoho, Ireland, Jebo, Niarada (T) and Pedleford series. Conneridge, Ireland, Jebo, Pedleford, and Tuckerdowns (T) soils have bedrock at depths of 20 to 40 inches. Dagan soils have secondary lime at depths of 19 to 34 inches and have Hues of 2.5YR, 5YR or 7.5YR. Hondoho soils have 18 to 30 percent clay in the control section. Niarada soils have secondary lime at depths of 24 to 50 inches. Tuckerdowns soils have more than 18 percent clay in the particle-size control section.

GEOGRAPHIC SETTING: Buist soils are on fan terraces, plains, foothills and mountain slopes. Slopes range from 0 to 60 percent. Elevations range from 5,000 to 6,600 feet. The soil formed in alluvium with some loess and silty alluvium from loess influence. The average annual precipitation ranges from 12 to 18 inches, most of which falls as spring rains and winter snow. The average annual air temperature is 38 to 43 degrees F and the frost free season is 70 to 95 days.

GEOGRAPHICALLY ASSOCIATED SOILS: These are the Arbone, Causey, Jimsage, Lanoak, Rexburg and Ririe series. Arbone soils have a coarse-loamy particle-size control section. Causey soils have a fine-loamy particle-size control section. Jimsage and Lanoak soils are pachic. Rexburg and Ririe soils have a coarse-silty particle-size control section. Arbone, Rexburg and Ririe soils are on fan terraces on positions to the side or higher up on the landscape than Buist. Causey soils are on fan terraces on slightly lower positions than Buist. Lanoak soils are on basalt plains in concave to smooth areas and on hillsides. Jimsage soils are on basalt plains on smooth to slightly concave areas.

DRAINAGE AND PERMEABILITY: Well drained; slow to very rapid runoff; moderate permeability.

USE AND VEGETATION: Buist soils are used for irrigated and nonirrigated cropland and rangeland. Typical crops consist of small grains and alfalfa. The potential natural vegetation is threetip sagebrush, rabbitbrush, horsebrush, bluebunch wheatgrass, bluegrass, needleandthread and prairie junegrass.

DISTRIBUTION AND EXTENT: Southeastern Idaho. These soils are inextensive.

MLRA OFFICE RESPONSIBLE: Portland, Oregon

SERIES ESTABLISHED: Oneida County, Idaho, 1994.

Remarks: Diagnostic features and horizons recognized in this pedon are:

Mollic epipedon - the zone from the surface to 17 inches (A1, A2 and BA horizons)

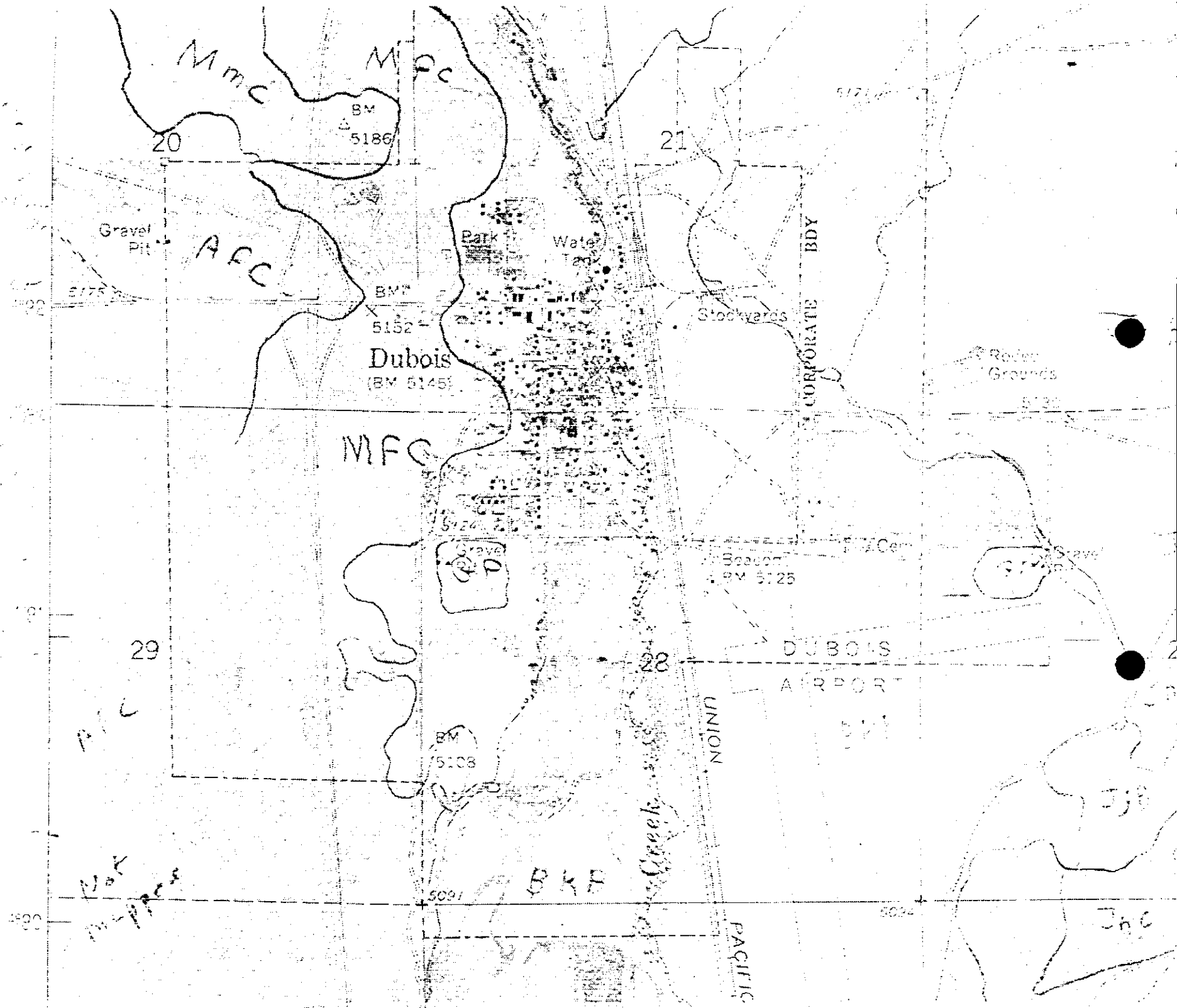
Calcic horizon - the zone from 23 to 37 inches (Bk2 and Bk3 horizons)

Particle-size control section - 10 to 40 inches (BA, Bk1, Bk2, Bk3 and part of the Bk4 horizons)

Soil moisture regime - xeric.

National Cooperative Soil Survey
U.S.A.

		Aw	PH	Other
	0" - 2"	0.12 - 0.16	6.6 - 7.8	2-4
Form S.	2" - 17"	0.09 - 0.16	6.6 - 8.4	4-7
	17" - 37"	0.04 - 0.10	7.4 - 9.0	7-1
	37" - 61"	0.04 - 0.10	7.7 - 9.0	



Official Soil Series Descriptions

USDA-NRCS Soil Survey Division

Data Access

Introduction

OSD Information Sheet

Data Base Access

- View OSD by Series Name (with best-match feature)
- View OSDs by List of Series Names (with FTP option)
- View OSDs by Query (with FTP option)
- Soil Series Name Search

Comments	Access Stats	Keys to Soil Tax.	NSDAF	Soil Survey Div.
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**IOWA STATE
UNIVERSITY**

WWW access developed in cooperation with the Statistical Laboratory at Iowa State University.

<http://www.statlab.iastate.edu/soils/osd>

May 19, 1998

Official Soil Series Descriptions

USDA-NRCS Soil Survey Division *View by List*

DIRECTIONS

The following entry box may be used to retrieve a list of Official Soil Series Descriptions.

Enter only one name per line, pressing return after each one.
Capitalization does not matter.

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Penst.

Carlsen, Ernie

From: King, Scott
Sent: Tuesday, November 21, 2000 3:00 PM
To: Carlsen, Ernie
Subject: RE: Shape file for 31-117

After your call, I looked for Clark Co. soils book, but couldn't find one.

Pat Phelps from the NRCS over here referred me to Brad Duncan of the NRCS in IF. His number is 522-5351 ext 115. Pat says the soils have been mapped but not published yet. Since you are over there, perhaps you could make contact with him. Here is what you want:

1) Soil Map. Is there a digital form of any kind? If not, a copy of the paper map can be used to apply to your POU. We may scan and geo-reference, then digitize the soil boundaries for the POU. Then use the Intersect Xtool to get acres per field at the POU.

2) Soil Name

3) If an intake family number is available, get that. We usually don't have them, and use the Hubble instructions to determine it.

4) For each layer:

- a) depth
- b) ph (should be high and low values)
- c) % organic matter (high/low)
- d) awc (available water content, high/low)
- e) texture (e.g. fine sandy loam)

If you would like to learn the Hubble method, we can work on this one together. Your shape shows furrows likely running N to S. The west field (J) would likely be split into at least 3 fields with furrow lengths in the 1400 ft range to begin with. That distance seems to match some of the imagery-indicated furrow lengths. Using the furrow.exe program, we could see if longer furrows could be more efficient (especially for the southern end of the field), but I think that shorter ones will give better efficiencies. Across the street from this place there is a set of nice looking fields with lengths in the 900-1000 ft range.

In your office, someone should have a copy of Jeff's **Report Regarding Evaluation of Irrigation Diversion Rates**, January 14, 1999. Perhaps review it, or at least have handy. Also helpful are the Hubble reports.

Cheers. And Happy Turkey Day.
Scott

-----Original Message-----

From: Carlsen, Ernie
Sent: Tuesday, November 21, 2000 12:36 PM
To: King, Scott
Subject: Shape file for 31-117

Hi Scott,

You can either launch arcview while in workprocess for amending claim 31-117 or use the attached shape files.

<< File: a31-00117.dbf >> << File: a31-00117.sbn >> << File: a31-00117.sbx >> << File: a31-00117.shp >> << File: a31-00117.shx >>

Ernie

Darwin Jeppson. BLM. 524-7500.

Date: October 16, 2000

To:

Roy Laird Ranch
P.O. Box 194
Dubois, Idaho

Valera;

I used the Farm Irrigation Rating Index (FIRI) program to evaluate Gross Irrigation Required for your farm, south of Dubois. It is a relative rating that is the product of management, system, and potential efficiency factors. For example; the conveyance efficiency uses the length of canal and/or ditch, and the type of soil (gravelly loam from your Farm Plan) for a conveyance efficiency of 55 %

The flood method of irrigation, used on your fields, has a potential application efficiency of 60 %.

Net crop need for alfalfa grass, in your climatic area, range from 18.9 to 21.2 inches of water depth per acre. I used 21.2 inches (divided by 12 inches per foot = 1.8 Acre Feet)

The attached evaluation resulted in a gross irrigation requirement of 96.7 acre inches per acre, divided by 12 inches = 8 acre feet of water per acre of crop. $1.8 \text{ AF} / 8 \text{ AF} = 23\%$ overall efficiency

This overall need could be reduced by ; installing a pipeline from the creek diversion to the farm, installing on farm pipelines to transport water to the fields (i.e. gated pipe) converting from flood irrigation to a sprinkler system, develop a working water delivery agreement with other ditch water users, and to a smaller degree, by adding more labor to improve water management.

Bob Lehman
NRCS
Rexburg, Idaho

The following evaluation is for : Roy Laird Ranch

Farm ID : Dubois Idaho

Field ID : Irr.

Area irrigated : 167.00 acres

Crop grown : Alfalfa grass

NIR : 21.20 inches per acre

Soil series name : Becreek

Intake family : 1.50 inches

FACTOR	Present	Year1	Year2	Year3	Year4	Year5
Method of irrigation	Flood					
Potential efficiency	60					
Water measurment	0.96					
Soil/moisture scheduling	0.95					
Irr. skill and action	0.95					
System maintenance	0.95					
Water delivery	0.80					
Soil condition	0.96					
Water control	0.97					
Conveyance efficiency	0.55					
Surface topograghy	0.83					
Water reuse factor	1.30					
Climate (sprinkler only)						
Wind (sprinkler only)						
Eff. - Conv. & Field (%)	21.92					
Gross Irrig. Req. (Inch)	96.72	$\div 12 \frac{1}{4} = 8.06 \text{ AF}$				
Total acre feet required	1346.04					
Field efficiency (%)	43.1					
Total water loss (AF)	389.9					
Seasonal Water Loss (Ft)	2.3					
Deep Perc (Ft.)	1.52					
Run off (Ft.)	0.82					

3000 LF, DIVERSION to FARM

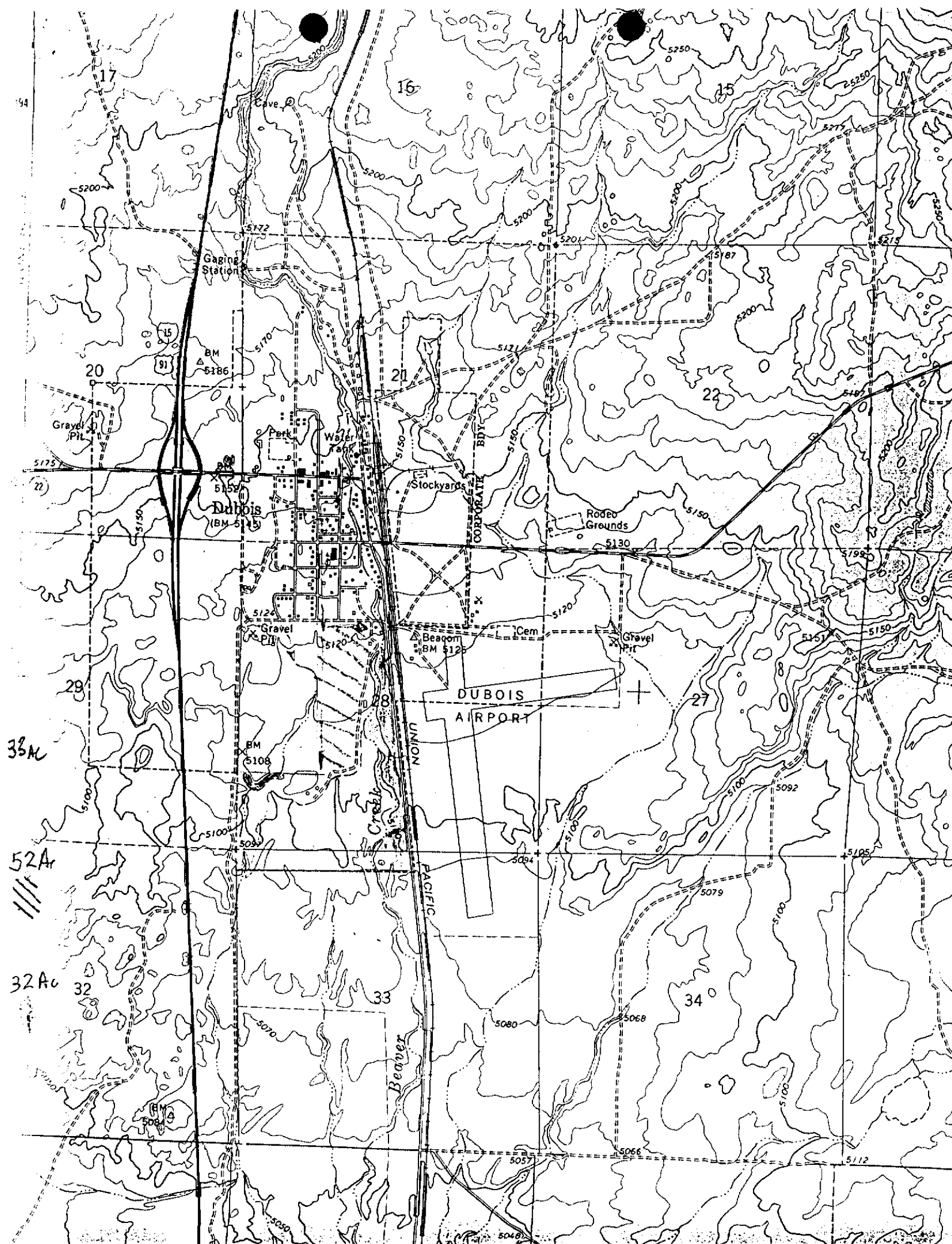
2,000 LF, ON FARM DITCH

GRAVELLY LOAM SOIL

County _____
State _____
Approximate acres _____
Conservation District _____
Plate number _____
USDA Soil Conservation Service

Conservation District _____
Plate number _____
USDA Soil Conservation Service





The following evaluation is for : Roy Laird Ranch

Farm ID : Dubois Idaho

Field ID : all

Area irrigated : 167.00 acres

Crop grown : Hay-pasture

NIR : 18.00 inches per acre

Soil series name : Becreek

Intake family : 1.50 inches

3/1/89

FACTOR	Present	Year1	Year2	Year3	Year4	Year5
Method of irrigation	Flood	Flood	Sprinkle			
Potential efficiency	60	60	70			
Water measurment	0.96	0.96	1.00			
Soil/moisture scheduling	0.95	0.95	1.00			
Irr. skill and action	0.95	0.95	1.00			
System maintenance	0.95	0.95	1.00			
Water delivery	0.83	0.83	0.90			
Soil condition	0.96	0.96	0.96			
Water control	0.97	0.97	1.00			
Conveyance efficiency	0.55	0.81	0.95			
Surface topograghy	0.85	0.85				
Water reuse factor	1.30	1.30				
Climate (sprinkler only)			1.00			
Wind (sprinkler only)			0.94			
Eff. - Conv. & Field (%)	23.29	34.18	54.28			
Gross Irrig. Req. (Inch)	77.29	52.67	33.16			
Total acre feet required	1075.64	732.98	461.46			
Field efficiency (%)	45.8	45.8	56.9			
Total water loss (AF)	296.8	296.8	190.1			
Seasonal Water Loss(Ft)	1.8	1.8	1.0			
Deep Perc (Ft.)	1.16	1.16	0.64			
Run off (Ft.)	0.62	0.62	0.34			

USED 3,000 FT OF DITCH TO FARM
2,000 FT OF ON FARM DITCH

IF 3,000 FT of PIPE
REPLACED THE DITCH
TO THE FARM

ALL PIPELINE AND
SPRINKLER SYSTEM

ABOUT 600⁰⁰/ACRE +

The following evaluation is for : Roy Laird Ranch

Farm ID : Dubois Idaho

Field ID : all

Area irrigated : 167.00 acres

Crop grown : Hay-pasture

NIR : 18.00 inches per acre

Soil series name : Becreek

Intake family : 1.50 inches

FACTOR -----	Present -----	Improved -----
Method of irrigation	Flood	Sprinkler
Potential efficiency (per cent)	60	70
MANAGEMENT FACTORS -----		
Water measurement	0.96	1.00
Soil/moisture scheduling	0.95	1.00
Irr. skill and action	0.95	1.00
System maintenance	0.95	1.00
Water delivery	0.83	0.90
Soil condition	No change	No change
SYSTEM FACTORS -----		
Water control	0.97	1.00
Conveyance efficiency	0.55	0.95
Surface topograghy	No change	No change
Water reuse factor	No change	No change
Climate (sprinkler only)	0.00	1.00
Wind (sprinkler only)	0.00	0.94
System efficiency (%)	23.29	54.28
Gross Irrigation Requirement (In)	77.29	33.16
Total acre feet required	1075.64	461.46

You are changing the method of irrigation you presently use. This will probably cost additional money and may require more training to properly operate the new system of irrigation.

The farm delivery system is being improved. A measuring device is to be installed at each FIELD or the water being delivered will not be split into separate heads. There may be an installation cost associated with this practice if additional measuring devices are being installed.

You as owner/operator have agreed to change the method you use to determine when irrigation water is to be applied. You have agreed to use the check book method of tracking soil moisture use or you are going to install some means of monitoring soil moisture. Both will require more time on your part and may require additional funds.

You have agreed to significantly modify the manner you apply water on your field. This will probably require additional time or manpower.

You are using an experienced trained full time irrigator to apply water. Water is applied according to the Irrigation Water management Plan or application closely follows the IWM Plan.

You have agreed to improve the overall maintenance of your irrigation system. Maintenance includes work to prevent deterioration as well as repairing damage to the system. This will require both additional time and money to accomplish.

An improvement in the water delivery system factor requires that you change your control on when and how much water you have delivered. This may require an agreement with an Irrigation District or an Irrigation company.

You have agreed to modify the surface topography by leveling your land. This will require additional funds to accomplish.

R. W. Laird

1892- September 10 31 117 ✓ 4.44 c.f.s.
1894 - May 1 31 118 ✓ 2.75 c.f.s.

TRANS # 1988

Source: Dry Creek, otherwise known as Beaver Creek.

Points of Diversion: (1) In the Southeast Quarter of the Northwest Quarter of Section 21, Township 10 North, Range 36 East, N. W.; (2) In the Northeast Quarter of the Southwest Quarter of Section 21, Township 10 North, Range 36 East, N. W.; (3) In the Northeast Quarter of the Southwest Quarter of Section 28; Township 10 North, Range 36 East, N. W.

For use on the following described land, to-wit: The Southwest Quarter of the Northwest Quarter of Section 27; the Northwest Quarter of the Southwest Quarter of Section 27, Township 10 North, Range 36 East, N. W. Also a tract described by metes and bounds, and located in Sections 28 and 33, in said Township and Range, being particularly described as follows: Commencing at the Northeast corner of the Southwest Quarter of the Northeast Quarter of Section 28; thence East 85 feet; thence South 8'18" East, a little more than one mile to intersect the South line of the Northeast Quarter of the Northeast Quarter of said Section 33, at a point 940' West of the East section line of said Section 33; thence West 940' to intersect the East boundary line of the Oregon Short Line Railroad right-of-way; thence Northwesterly along the East line of said railroad right-of-way a little more than a mile to intersect the North line of the Southwest Quarter of the Northeast Quarter of said Section 28; thence East 1262.6' to the place of beginning, containing 133 acres.

E. W. Laird

(continued)

Also a tract of land in Sections 28 and 36, in said Township and Range, and more particularly described by metes and bounds as follows; Commencing at a point 974' East of the Northwest corner of the Southeast Quarter of the Northwest Quarter of Section 28; thence South 30' East 247'; thence East 67'; thence South 5' West 193'; thence East 13° North 103'; thence South 4°15' West 45'; thence West 13° South 250'; thence South 4°15' West 470'; thence South 10' East 324'; thence South 85°15' West 839'; to intersect the West line of the Northeast Quarter of the Southwest Quarter of Section 28; thence South 26' East 1327' to the Southwest corner of the Northeast Quarter of the Southwest Quarter of said Section 28; thence West to the Northwest corner of the Southwest Quarter of the Southwest Quarter of Section 28; thence South 26' East 1664'; thence East 3111' to intersect the West boundary of the public highway 60' West of the West line of the Oregon Short Line Railroad right-of-way; thence Northwesterly along the West line of said public highway to intersect the North line of the Southeast Quarter of the Northwest Quarter of said Section 28; thence West 233' to the place of beginning, containing 170.63 acres, -- all of said land being in Township 10 North, Range 36 East, N. M.