

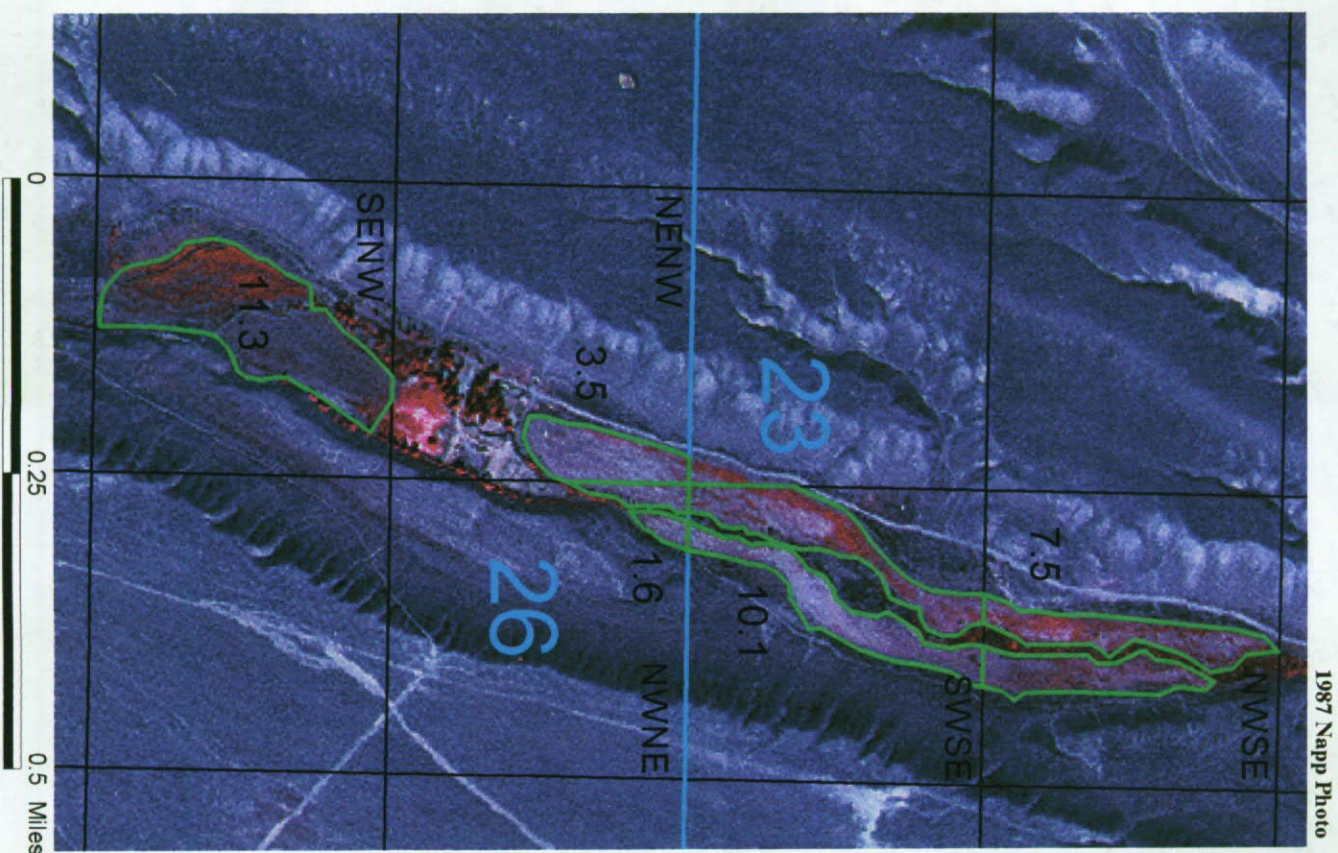
Idaho Department of Water Resources

Claim Number: 57-01217
Legal: T07S, R02E, S23, 26
Reviewed By:

- Point of Diversion
(One located outside of view)
- Place of Use
- Section Lines
- Quarter Quarter Lines
- Township/Range Lines



04/03



OVERLAP REVIEW FOR A57-1217 COMBINED WITH A57-1218

	NUMBER	TNS	RNG	SEC	NE				NW				SW				SE				TOTAL	SYSTEM TOTAL
					NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE		
A57	1217	7S	2E	23													8	11			19	
SHOOFLY CR.				26		2			3			10									15	34

	NUMBER	TNS	RNG	SEC	NE				NW				SW				SE				TOTAL	SYSTEM TOTAL
					NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE		
A57	1218	7S	2E	23													4	5			9	
SPRING				26		2			3												5	14

	NUMBER	TNS	RNG	SEC	NE				NW				SW				SE				TOTAL	SYSTEM TOTAL
					NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE		
TOTAL ACRES		7S	2E	23													12	16			28	
				26		2			6			10									18	46

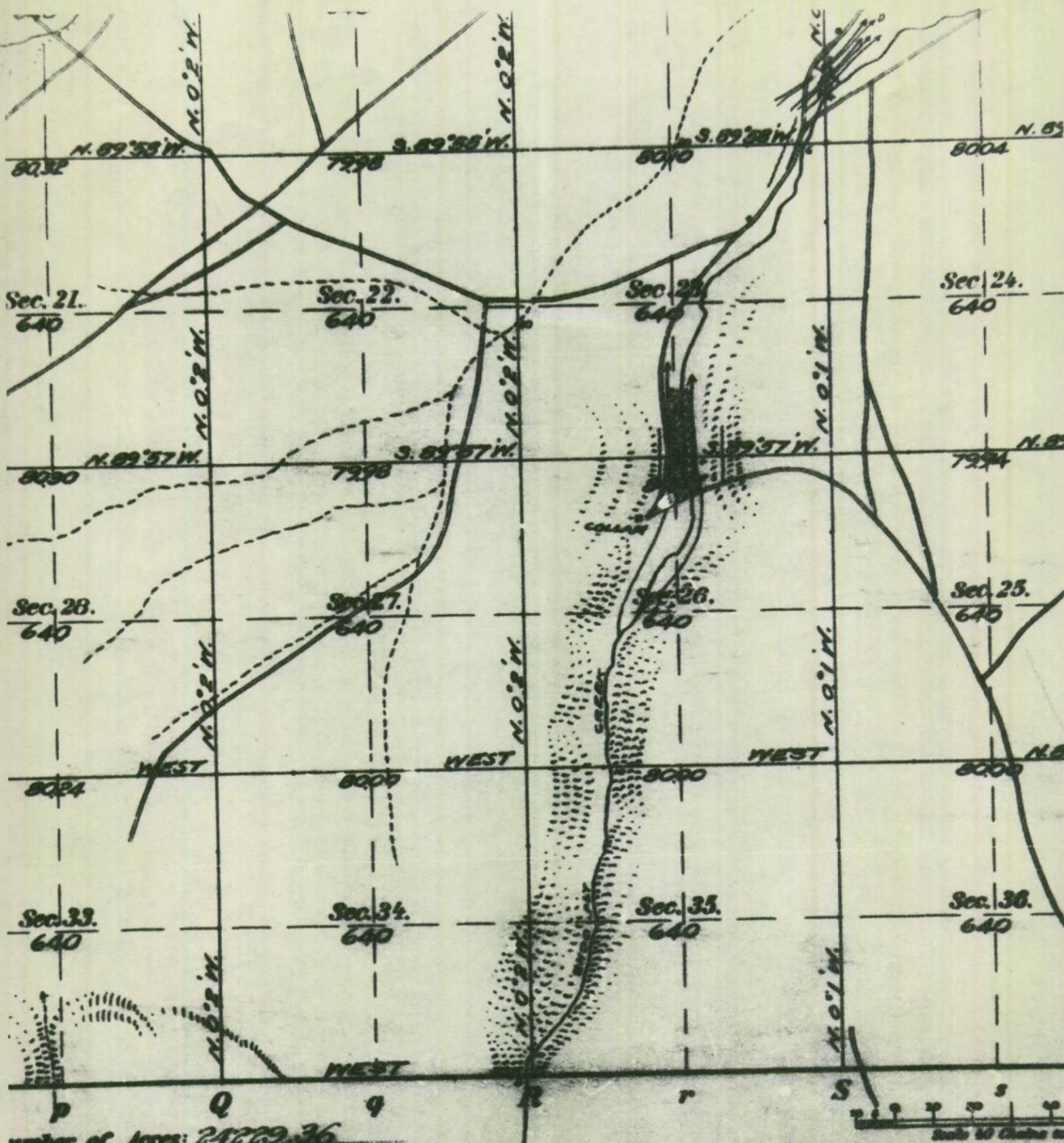
	NUMBER	TNS	RNG	SEC	NE				NW				SW				SE				TOTAL	SYSTEM TOTAL
					NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE		

② ACRES OVERLAP

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OCT 07 1992

AUG 28 1991



Number of Acres: 24279.36

When Surveyed	Weather
June 16, 1895	
June 17-22, 1895	15.35 E.
Octob. 9, 1895	
July 1, 1896	
Aug. 9, 1896	

The above Map of Township N. 7. S.
Boise Meridian, Idaho
notes of the survey thereof on file in this

Surveyor General's Office,
Boise City, Idaho
December 2, 1896

UNRECORDED

township and range number.

6/1898

N

SOUTH LINE OF H.M.'S HOMESTEAD

FENCE

ROAD

SHOOKLY CREEK 90°

14 13
23 24

CULTIVATED LAND EXISTS YET.

CULLEN'S PLACE

23 24
26 25

FENCE

SHOOKLY CREEK 15 FT

6 FT

HOUSE

FENCE

SHOOKLY CREEK 15 FT

6 FT

23 24
26 25

Wrong Sale

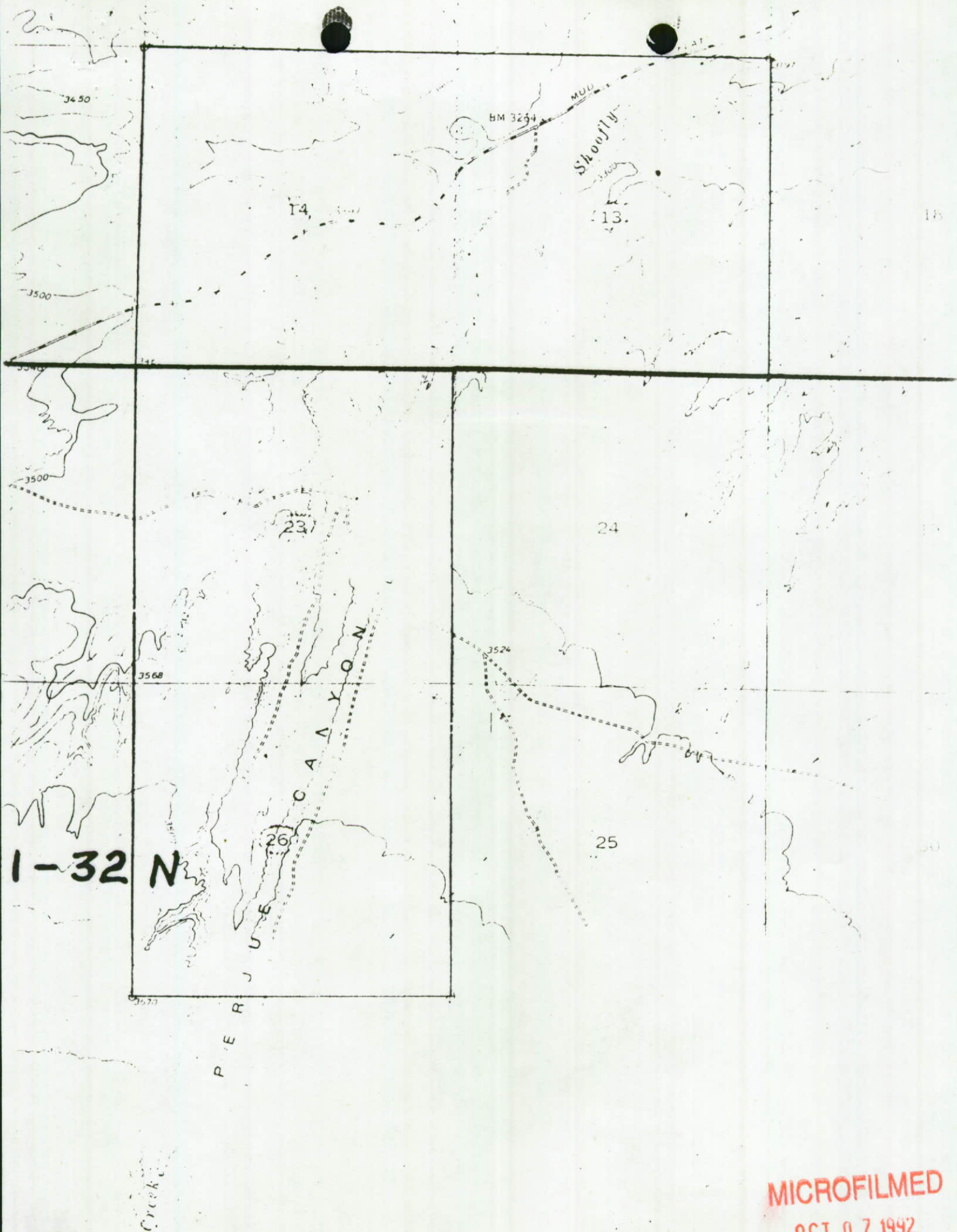
OC 111-105

1 660 FT.

(Applicant)

Hand-drawn map of a section of the Black Hills National Forest, showing various land parcels, roads, and landmarks. The map is divided into sections by a grid. The top section is labeled "R 2 E" and the bottom section is labeled "T 7 S". The map shows several parcels of land, including 49B, 78B, 77A, 79C, 79A, 78A, 33A, 33B, 5A, 51C, 13, 14, 23, 26, and 325. A road is shown running vertically through the center, with arrows indicating direction. A north arrow is located to the right of the map, and a scale bar indicates 1 mile = 2.64 inches.

MICROFILMED
OCT 07 1992



MICROFILMED
OCT 07 1992

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: A57-01217

Date Received: 11/17/1988

Receipt No: C093946

Received By: *[Signature]* 12/15/88

NOTICE OF CLAIM TO A WATER RIGHT
ACQUIRED UNDER STATE LAW

1. Name: PAUL BLACK
Address: BOX 273
GRAND VIEW, ID 83624

Name: MATTIE BLACK
Address: BOX 273
GRAND VIEW, ID 83624

2. Date of Priority: AUG 16, 1883

3. Source: SHOOFLY CREEK Trib. to: SNAKE RIVER

4. Point of Diversion:

Township	Range	Section	1/4 of	1/4 of	1/4 of	Lot	County
07S	02E	26	NW	NE			OWYHEE
			SE	SW			OWYHEE

5. Description of diverting works:
DITCHES

6. Water is used for the following purposes:

Purpose	From	To	C.F.S.	(or)	A.F.A.
IRRIGATION	03/15	11/15	1.000		
STOCKWATER	01/01	12/31	0.050		2.70

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

8. Total consumptive use is Acre Feet Per Annum.

9. Non-irrigation uses:
S/100 HEAD RANGE & HORSES

A57-01217

Page 1

Date: 11/17/88

MICROFILMED

OCT 07 1992

10. Place of Use:

Township	Range	Section	1/4 of	1/4	Lot	Use	Acres
07S	02E	23	NW	SE		IRR	8.0
			SW	SE		IRR	11.0
						Section Acres	19.0
		26	NW	NE		IRR	2.0
			NE	NW		IRR	3.0
			SE	NW		IRR	10.0
						Section Acres	15.0
						Total Acres	34.0

11. Place of use in counties: OWYHEE

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

13. Other Water Rights Used:
57-1218

14. Remarks:

15. Basis of Claim: DECREED
Case Number:
Court :
Decree date:

Decree Plaintiff

vs

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): Paul J. Black Date: 12-15-88
Walter L. Black Date: 12-15-88

State of Idaho)
County of Ada) SS.

Subscribed and sworn (or affirmed) before me this 15 day
of December 19 88

[Signature]
Notary Public

Seal

Residing at Boise, ID
My Commission Expires June 10, 1994

IDWR - WESTERN REGION

CONTRACTOR: Karan Waters

CLAIM/ID: 57-01217

Date: 3-10-03

	TNS	RNG	SEC	NE				NW				SW				SE				SUM
				NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
Claim	75	2E	23														8	11		19
GIS																	7.5	10.1		17.6
Claim			26		2			3			10									15
GIS					1.6			3.5			11.3									16.4
Claim																				
GIS																				
Claim																				
GIS																				

Number of POD's 2

Total Claimed Acres: 34

Overlapping FOU Claim #'s:

57-01218

Total GIS Acres: 34

COMMENTS:

Per claim map, overlapping claim + image interpretation.

PODs are estimated per claim legal.

Idaho Department of Water Resources

Claim Number: 57-01217

Legal: T07S, R02E, S23, 26

Reviewed By:



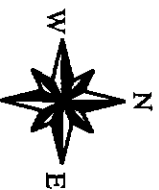
Point of Diversion
(One located outside of view)

Place of Use

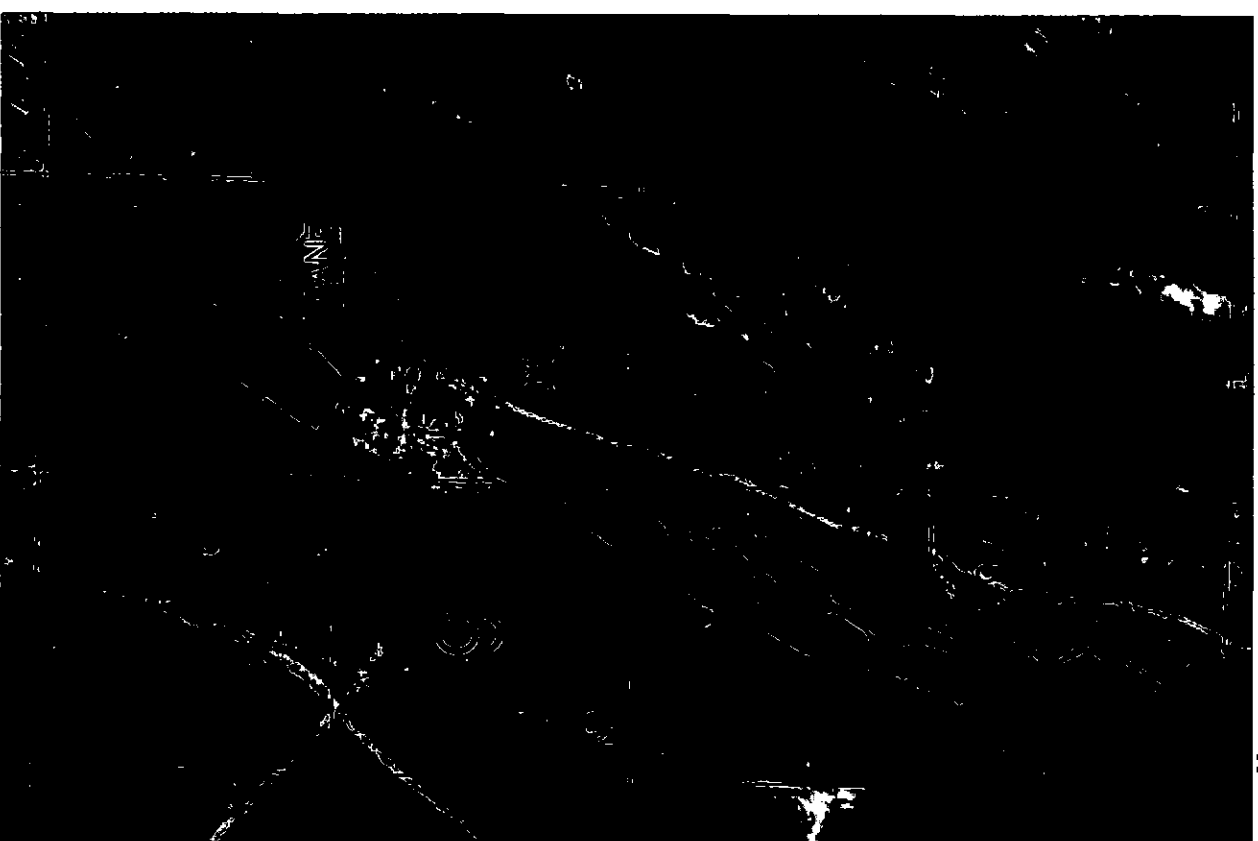
Section Lines

Quarter Quarter Lines

Township/Range Lines



04/03



1987 Napp Photo



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

In Re SRBA)
Case No. 39576)
_____)

PARTIAL DECREE PURSUANT TO
I.R.C.P. 54(b) FOR
Water Right 57-01217

1997 DEC 15 AM 10:51
DISTRICT COURT - SRBA
TWIN FALLS CO., IDAHO

FILED _____

NAME & ADDRESS: PAUL BLACK
MATTIE BLACK
PO BOX 273
GRAND VIEW ID 83624

SOURCE: SHOOFLY CREEK TRIBUTARY: SNAKE RIVER

QUANTITY: 1.00 CFS

THE QUANTITY OF WATER UNDER THIS RIGHT FOR STOCKWATER USE
SHALL NOT EXCEED 13,000 GALLONS PER DAY.

PRIORITY DATE: 08/16/1883

POINT OF DIVERSION: T07S R02E S26 NWNE Within Owyhee County
SESW

PURPOSE AND PERIOD OF USE:	PURPOSE OF USE	PERIOD OF USE	QUANTITY
	IRRIGATION	Irrigation Season	1.00 CFS
	STOCKWATER	01-01 12-31	0.05 CFS

PLACE OF USE: IRRIGATION Within Owyhee County
T07S R02E S23 NWSE 8 SWSE 11
S26 NWNE 2 NENW 3 SENW 10
34 ACRES TOTAL

Place of use for STOCKWATER is same as IRRIGATION

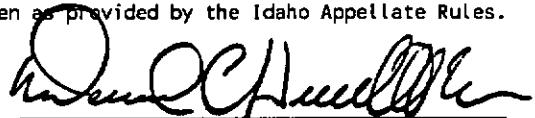
USE OF THIS RIGHT WITH RIGHT NO. 57-01218 IS LIMITED TO THE
IRRIGATION OF A COMBINED TOTAL OF 46 ACRES IN A SINGLE
IRRIGATION SEASON.

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

THE QUANTITY OF WATER DECREED FOR THIS WATER RIGHT FOR
STOCKWATER USE IS NOT A DETERMINATION OF HISTORICAL BENEFICIAL
USE.

RULE 54(b) CERTIFICATE

With respect to the issues determined by the above judgment or order, it is hereby CERTIFIED, in accordance with Rule 54(b), I.R.C.P., that the court has determined that there is no just reason for delay of the entry of a final judgment and that the court has and does hereby direct that the above judgment or order shall be a final judgment upon which execution may issue and an appeal may be taken as provided by the Idaho Appellate Rules.



DANIEL C. HURLBUTT, JR.
PRESIDING JUDGE
Snake River Basin Adjudication

AJ0749NP
No. R57-01217

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

DATE: 11/05/97
PAGE: 2

Comments:

Date: 08/29/1991 User-ID: HOWERTON Subject: COMBINED CFS
EACH RIGHT IS SELF-LIMITING, THEREFORE THE COMBINED CFS IS NOT
CONDITIONED.

Date: 01/24/1996 User-ID: DSMITH Subject: NAME AND/OR ADDRESS CHANGE
THE NAMES OR ADDRESSES IN THE NAME FILE WERE CHANGED WITHOUT THE
ABOVE USER NOTING EXACTLY WHAT WAS CHANGED. THE CHANGE FOR A
K-OWNER OR ATTORNEY MAY HAVE BEEN MADE WITHOUT A WATER RIGHT
OWNER CHANGE.
*NAME/ADDRESS CONFORMED TO AVOID DUPLICATE MAILING LABELS

Date: 08/23/1996 User-ID: RHOWERTO Subject: COPIED FROM REMARKS
0.32 CFS OF THIS RIGHT IS LIMITED TO USE FOR CONVEYANCE LOSSES IN
DELIVERY OF THIS RIGHT.

Audit: 11/05/97 MSCHULTE

IDAHO DEPARTMENT OF WATER RESOURCES
RECOMMENDED WATER RIGHTS ACQUIRED UNDER STATE LAW

DATE: NOV-05-1997

PAGE: A-1

 RIGHTS FROM: SOURCE: SHOOFLY CREEK TRIBUTARY: SNAKE RIVER

RIGHT NUMBER: 57-01217

NAME AND ADDRESS: PAUL BLACK
 MATTIE BLACK
 PO BOX 273
 GRAND VIEW ID 83624

SOURCE: SHOOFLY CREEK TRIBUTARY: SNAKE RIVER

QUANTITY: 1.00 CFS

THE QUANTITY FOR NON-IRRIGATION USE IS LIMITED TO THE AMOUNT BENEFICIALLY
 USED FOR STOCKWATER, 100 HD CATTLE & HORSES.

THE QUANTITY OF WATER UNDER THIS RIGHT FOR STOCKWATER USE
 SHALL NOT EXCEED 13,000 GALLONS PER DAY.

PRIORITY DATE: 08/16/1883

POINT OF DIVERSION: T07S R02E S26 NWNE Within Owyhee County
 SESW

PURPOSE AND PERIOD OF USE:	PURPOSE OF USE	PERIOD OF USE	QUANTITY
IRRIGATION		<u>Irrigation Season</u>	1.00 CFS
		~~02/12~~ 11/12	
STOCKWATER		01-01 12-31	0.05 CFS

PLACE OF USE: IRRIGATION Within Owyhee County
 T07S R02E S23 NWSE 8 SWSE 11
 S26 NWNE 2 NENW 3 SENW 10
 34 ACRES TOTAL

Place of use for STOCKWATER is same as IRRIGATION

USE OF THIS RIGHT WITH RIGHT NO. 57-01218 IS LIMITED TO THE
 IRRIGATION OF A COMBINED TOTAL OF 46 ACRES IN A SINGLE
 IRRIGATION SEASON.

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

THE QUANTITY OF WATER DECREED FOR THIS WATER RIGHT FOR
 STOCKWATER USE IS NOT A DETERMINATION OF HISTORICAL BENEFICIAL

57-01217 (CONT.)

USE.

USE OF THIS RIGHT WITH RIGHT 57-01218 IS LIMITED TO A TOTAL
COMBINED ANNUAL CONSUMPTIVE USE VOLUME OF 161 AF, AND TO THE
IRRIGATION OF A COMBINED TOTAL OF 46 ACRES IN A SINGLE IRRIGATION
SEASON.

0.32 CFS OF THIS RIGHT IS LIMITED TO USE FOR CONVEYANCE LOSSES IN
DELIVERY OF THIS RIGHT.

EXPLANATORY MATERIAL: BASIS OF CLAIM - DECREE
STOCKWATER, 100 RANGE CATTLE AND HORSES

**OWNER
CODE**

NAME & ADDRESS

PRIORITY
DATE

WATER USE

USE PERIOD
FROM TO

DIVERSION RATE
DIVERSION VOLUME

C PAUL BLACK

C MATTIE BLACK

PO BOX 273

GRAND VIEW ID 83624

Water Source: SHOOFLY CREEK

Point(s) of Diversion:

T07S R02E S26

NINE

MS3S

Place of use Legal Description for: IRRIGATION

LINE

三

MS

T R S : Lt AC Lt AC Lt AC Lt AC

[illegible]

MSM Lt Ac L

SW SESW
AC Lt AC

HOUSE
t AC L

```

: NWSE SWSE SESE
: t AC Lt AC Lt AC
:

```

SUM

07S 02E 23 : :

07S 02E 26 :

10 =

15.0

Place of use location for STOCKWATER is the same location as described for: IRRIGATION

POU County: Owyhee

Other Rights: ~~SEE REMARKS~~

Other Water Rights with Same Point(s) of Diversion with Stage (Includes All Sources):
57-01217 A57-01217

Other Water Rights Listing Overlapping Place(s) of Use:

57-01217 57-01218 57-01217 57-01218 R57-01218

Conditions of Approval:

N05 - THE QUANTITY OF WATER UNDER THIS RIGHT FOR STOCKWATER USE
- SHALL NOT EXCEED 13,000 GALLONS PER DAY.

N07 - THE CONSUMPTIVE USE VOLUME IS ONLY FOR THE IRRIGATION PORTION
- OF THIS WATER RIGHT.

N08 - THE QUANTITY OF WATER DECREED FOR THIS WATER RIGHT FOR

- STOCKWATER USE IS NOT A DETERMINATION OF HISTORICAL BENEFICIAL
- USE.

Remarks: POW

USE OF THIS RIGHT WITH RIGHT NO. 57-01218 IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 46 ACRES IN A SINGLE IRRIGATION SEASON.

USE OF THIS RIGHT WITH RIGHT NO. 57-01218 IS LIMITED TO A TOTAL COMBINED ANNUAL CONSUMPTIVE USE VOLUME OF 161 AF.

EXP STOCKWATER, 100 RANGE CATTLE AND HORSES

AJ5809NP
No. R57-01217

IDAHO DEPARTMENT OF WATER RESOURCES
ADJUDICATION CLAIM PROFILE REPORT

DATE: 10/30/97
PAGE: 2

Objection Filed Date:

Dates: Exam Made Date:

Misc: Water District Number: Field Inspection Flag:
Presumption Flag:

Comments: Date: 08/29/1991 User-ID: HOWERTON Subject: COMBINED CFS
EACH RIGHT IS SELF-LIMITING, THEREFORE THE COMBINED CFS IS NOT
CONDITIONED.

Date: 01/24/1996 User-ID: DSMITH Subject: NAME AND/OR ADDRESS CHANGE
THE NAMES OR ADDRESSES IN THE NAME FILE WERE CHANGED WITHOUT THE
ABOVE USER NOTING EXACTLY WHAT WAS CHANGED. THE CHANGE FOR A
K-OWNER OR ATTORNEY MAY HAVE BEEN MADE WITHOUT A WATER RIGHT
OWNER CHANGE.
*NAME/ADDRESS CONFORMED TO AVOID DUPLICATE MAILING LABELS

Date: 08/23/1996 User-ID: RHOWERTO Subject: COPIED FROM REMARKS
0.32 CFS OF THIS RIGHT IS LIMITED TO USE FOR CONVEYANCE LOSSES IN
DELIVERY OF THIS RIGHT.

Audit: 08/22/96 RHOWERTO 08/23/96 RHOWERTO 09/06/96 RHOWERTO 09/27/96 RHOWERTO
10/09/96 MSCHULTE

OWNER NAME & ADDRESS PRIORITY DATE WATER USE USE PERIOD FROM TO DIVERSION RATE DIVERSION VOLUME
C PAUL BLACK 08/16/1983 IRRIGATION 03-15 11-15 1.00 CFS
C MATTIE BLACK STOCKWATER 01-01 12-31 0.05 CFS
GRAND VIEW ID 83624 TOTAL DIVERSION: 1.00 CFS

Water Source: SHOOLLY CREEK Tributary to: SNAKE RIVER Stage: DECREED
Point(s) of Diversion: T07S R02E S26 NWNE SESW OWYHEE County

Place of use Legal Description for: IRRIGATION									
NE NW SW									
T	R	S	:	Lt	Ac	Lt	Ac	Lt	Ac
07S	02E	23	:	:	:	:	:	:	:
07S	02E	26	:	02	:	03	:	10	:
									SUM
									19.0
									15.0
									34.0

Place of use location for STOCKWATER is the same location as described for: IRRIGATION

POU County: OWYHEE

Non-Irrigation Uses: STOCKWATER, 100 HD CATTLE & HORSES.

Other Rights: SEE REMARKS

Remarks: USE OF THIS RIGHT WITH RIGHT 57-01218 IS LIMITED TO A TOTAL
COMBINED ANNUAL CONSUMPTIVE USE VOLUME OF 161 AF, AND TO THE
IRRIGATION OF A COMBINED TOTAL OF 46 ACRES IN A SINGLE IRRIGATION
SEASON.
0.32 CFS OF THIS RIGHT IS LIMITED TO USE FOR CONVEYANCE LOSSES IN
DELIVERY OF THIS RIGHT.

Dates: Exam Made Date: 01/10/1991 Verified Date: 07/16/1992

Misc: Water District Number: Field Inspection Flag:
Presumption Flag:

Comments: Date: 08/29/1991 User-ID: HOWERTON Subject: COMBINED CFS
EACH RIGHT IS SELF-LIMITING, THEREFORE THE COMBINED CFS IS NOT
CONDITIONED.

Audit: 02/06/91 HOLT 02/06/91 HOLT 02/19/91 HOLT 05/17/91 HOLT
08/29/91 HOWERTON 09/11/91 HOWERTON 09/13/91 HOWERTON 09/20/91 HOWERTON
11/11/91 HOWERTON 12/14/91 HOWERTON 02/24/92 HARRIS 03/19/92 HOWERTON
07/16/92 HOWERTON 07/29/92 PR-PROD 10/13/92 CP SHAW 12/05/92 ADT-SHAW

MICROFILMED
JUL 20 1994

MICROFILMED
OCT 07 1992

AJ0749NP
No. R57-01217

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

DATE: 07/16/92
PAGE: 2

Audit: 07/16/92 HOWERTON

MICROFILMED
OCT 07 1992

ADJUDICATION CLAIM CHECKLIST

NOTICE OF CLAIM NO. A57-01217

VR ELEMENT	FIELD EXAM Y/N-IF NO, DO OFFICE VERIFICATION	FIELD EXAM OR IN-OFFICE VERIFICATION WHOM/DATE	CLAIM VERIFIED BY CODE (SEE BELOW)	CLAIMANT CONTACT NEEDED - Y/N**	REVIEW COMPLETED WHOM/DATE	"R" RECORD
PRIORITY*	<u>N</u>	<u>Rdh 1/10/91</u>	<u>6</u>	<u>N</u>		
PT. OF DIV.						
SOURCE						
PL. OF USE						
DIV. AMOUNT CFS/AF			<u>ADD AF</u>			
CONSUMPTIVE USE			<u>ADD CW</u>			
NATURE OF USE			<u>6</u>			
PERIOD OF USE						
BASIS OF CLAIM						
REMARKS						

VERIFICATION CODES

TOPO MAP/ORTHOGRAPHO = 1
 ASCS MAP = 2
 WATERMASTER RECORDS = 3
 NAPP PHOTOS = 4
 FIELD EXAM = 5
 OTHER(SEE COMMENTS) = 6

*IF REQUIRED HAS EVIDENCE OF PRIORITY BEEN
 SUBMITTED - YES _____ NO _____

**IF CLAIMANT CONTACT IS NEEDED, COMPLETE
 CLAIMANT CONTACT CHECKLIST AND ATTACH.

COMMENTS: SAME AS DECREE, ADDED REMARK FOR DITCH LOSS.
IN-OFFICE MATCH

OCT 07 1992

MICROFILMED

CLAIM NO. 57-01217

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
CLAIM VERIFICATION EXAM SHEET

(use in place of the CVR for small ~~Domestic/Stock~~ exams)
MATCH

1. ☒ No Change NAME
NEW OWNER: _____
☐ No Change ADDRESS
NEW ADDRESS: _____
2. ☒ No Change - DATE OF PRIORITY: Completed - No Field Verification Needed.
☐ Incomplete - Claim shows no priority date, claimant should be asked during the exam when was water first used.
Priority date, per claimant, is _____.
(if the priority date, based on your exam, seems questionable, explain in remarks.)
3. ☒ No Change - SOURCE
☐ Source is different than that claimed:
Source found: _____
4. ☒ No Change - POINT OF DIVERSION
☐ Point of diversion is different than the claim
New P/D: Twp. ____, Rge. ____, Sec. ____, 1/4 1/4 1/4
5. ☒ No Change - DESCRIPTION OF DIVERTING WORKS
☐ Incomplete desc., complete items missing, IF KNOWN.
☐ Additional comments in remarks.
HP of pump ____ Pump Ser. # ____ Pumping water level ____
Well depth ____ Motor Ser. # ____ Static water level ____
Casing size ____ Method of irr. _____
6. ☒ No Change - WATER USES
☐ Different uses, (list uses found).
Use ____ From ____ To ____ Amount ____ cfs ____ af
Use ____ From ____ To ____ Amount ____ cfs ____ af
7. ☒ No Change - TOTAL VOLUME
☐ Incomplete on claim, the total is, -- -- ____ cfs ____ af
☐ Change found, the new total is, -- -- -- ____ cfs ____ af
8. N/A
9. ☒ No Change - NON-IRRIGATION USES: Completed on claim
☐ Incomplete on claim - Exam found:
Domestic - No. of homes ____ Stockwater - No. of head ____
Other: _____

MICROFILMED
OCT 07 1992

10. ☒ No Change - PLACE OF USE: (If changed, list below.)
Use Twp. Rge. Sec. 1/4, 1/4,

Remarks: (Comments pertinent to field examination)

ATTACHMENTS:

Attached to
This Form.

Attachments are
in Permit File.

PHOTOS (optional) ☐
MAP ☐
SYSTEM DIAGRAM ☐

☐
☐
☐

☐ Changes found during exam or additional information in the permit file, see permit file.

DATE EXAM CONDUCTED: 1/10/91

FIELD EXAMINER:

Ron Howerton

Signature

Ron Howerton

D.

RATE/VOLUME CALCULATIONS: (IRRIGATION)

1b. CALCULATIONS

1a. IRRIGATION RATE
ACRES 34 x 0.02 CFS/ACRE = .68 CFS
(Taken from p/u review)

DOES AMOUNT CLAIMED EXCEED 0.02 CFS/ACRE? Y() N()

*** IF YES ADDITIONAL WATER USE FORM FILED AND ATTACHED? Y() N() ***

2. IRRIGATION CONSUMPTIVE USE

CLAIMED CONSUMPTIVE USE = ; AF/A

ACRES 34 x CONSUMPTIVE VOL. AF/A FOR AREA 3.5 =

TOTAL CONSUMPTIVE USE 119 AF/A

3. IRRIGATION DIVERSION VOLUME

CLAIMED DIVERSION VOLUME = AF/A

ACRES x DIVERSION VOL. AF/A FOR AREA =

TOTAL DIVERSION VOLUME AF/A

4. CALCULATIONS FOR USES OTHER THAN IRRIGATION:

SEE ATTACHED SHEET? Y(X) N()

REMARKS: (Include limitations on CONSUMPTIVE USE for combined rights.)

COMBINED WITH 57-01218

COMBINED CU VOL = 161 AF

" ACRES = 46 AC

DITCH LOSS = 0.32 (SEE OVERLAPPING ANALYST)

MICROFILMED
OCT 07 1992

CLAIMANT: BLACK, PAUL/MATTIE

AGENT: RON HOWERTON DATE: 8/28/91

GIVEN:

ACRES OVERLAPPING:

IRRIGATION METHOD:		FLOOD	% SPRINKLER	%
1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
31	32	33	34	35
36	37	38	39	40
41	42	43	44	45
46	47	48	49	50
51	52	53	54	55
56	57	58	59	60
61	62	63	64	65
66	67	68	69	70
71	72	73	74	75
76	77	78	79	80
81	82	83	84	85
86	87	88	89	90
91	92	93	94	95
96	97	98	99	100

DELIVERY LOSS FACTOR USED:

$$\frac{\text{---}}{\text{(SOURCE)}} = \frac{\text{---}}{\text{(SOURCE)}} = \frac{\text{---}}{\text{---}} = \frac{\text{---}}{\text{---}}$$
$$= \frac{\text{---}}{\text{(SOURCE)}} \%$$
[illegible][illegible]

ANALYSIS FOR CLAIM NO.: A57-1217 AND A57-1218

Standard Conditions: USE OF THIS RIGHT WITH OTHER IS LIMITED TO A COMBINED ANNUAL

Standard Remarks:

Standard Remarks: (D02) CONSUMPTION USE VOLUME OF 161 AF, AND TO THE COMBINED TOTAL OF 46 ACRES IN A SINGLE IRRIGATION SEASON.

1. $1\text{ IN/ACRE} = 34 \times 0.02 = .68 \text{ CFS}$

#	1217	34 ACRES AT .03 CFS/ACRE	2) 34 ACRES AT .03 CFS/AC = 1.02 CFS
#	1218	14 ACRES AT .016 CFS/ACRE	- 12 ACRES AT .02 CFS/AC = .24 CFS
			(RIGHT IS LESS THAN 1 ACRE)
			1.24 CFS

TOTAL =

$$\text{REAL CFS} = \underline{1.22 \text{ CFS}}$$
$$14 - 2 = \underline{12 \text{ ACRES}}$$

卅

NOTE: EACH RIGHT IS SELF-LIMITING, THEREFORE THE COMBINED CFS IS NOT COMBINED

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OVERLAP REVIEW FOR A57-1217 COMBINED WITH A57-1218

	NUMBER	TNS	RNG	SEC	NE				NW				SW				SE				TOTAL	SYSTEM TOTAL
					NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE		
A57	1217	7S	2E	23													8	11			19	
SHOOFLY CR.				26	2				3			10									15	34

	NUMBER	TNS	RNG	SEC	NE				NW				SW				SE				TOTAL	SYSTEM TOTAL
					NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE		
A57	1218	7S	2E	23													4	5			9	
SPRING				26	2				3												5	14

	NUMBER	TNS	RNG	SEC	NE				NW				SW				SE				TOTAL	SYSTEM TOTAL
					NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE		
TOTAL ACRES		7S	2E	23													12	16			28	
				26	2				6			10									18	46

NUMBER	TNS	RNG	SEC	NE				NW				SW				SE				TOTAL	SYSTEM TOTAL
				NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE		

② ACRES OVERLAP

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State of Idaho
Department of Water Resources

ADJUDICATION CLAIM ANALYSIS SHEET

Review by D. SHAEF

Date 3/11/83

Right No. 57-1217

Claimant BLACK

Recommendation differs from claim: ☒ Yes ☐ No ☐ Disallow
(Document any differences)

Claim Details Verified Against:

Check (X or ✓) those searched. Circle records used for recommendation.
Include copies or memos where applicable to explain findings.

- ☐ License
- ☐ Previous Statutory Claim.
- ☐ Permits, valid or lapsed. Number(s) if different than above _____
- ☐ Decree. Name & date _____

☒ Conveyance Loss Calculations. See printout included.
☒ EVALUATING WATER NEEDS. IN FILE

☐ Title abstract. ☐ In file. Or, Name & location _____

☐ County records. ☐ In file. Or, Name & location _____

☐ Affidavits. ☐ In file.

☒ Posted Notices, Water Locations Notices. ☒ In file.

☒ Deed Records. ☒ In file. Or, Name & location _____

☐ Patent Records. ☐ In file. Or, Name & location _____

☐ Metzker Maps. Identify _____

☒ A.S.C.S. Records. Year & Photograph No. 5/09/69 ^{U-2 Photos} 77, 80

☐ Irrigation Company/District Records. ☐ In file. Or Name & location _____

☒ Historical Books. Name(s) & location: VALLEY OF THE TALL GRASS, HAWES, H.
STATE LIBRARY

☐ Interview(s). Attach conversation memorandum.

☒ Other GOVT. SURVEY PLAT - APPROVED 1898

☐ _____

Field Exam Made: ☒ Yes ☐ No Date 4/30/82, 1/26/83

☐ Adj. Report in file ☐ Beneficial Use Report in License (S.O.) File

Measurement 3.3' cfs. Amount recommended 80 100 cfs.

Type of measuring device: CURRENT METER AA Meter No. 090143

Condition GOOD Date 4/30/82 Time 5 PM

Adjudication Photo(s) Used: Name or No. PERNE CANYON

Field Photographs Taken ☐ Yes ☒ No DEFENDANT PLAINTIFFS CONSULTANT CARLYLE BRUSH HAS SOME.

Memorandum in file ☒ Yes ☐ No

Remarks _____

MEMORANDUM

TO: FILE 57-1217

FROM: Don Shaff *DS*

DATE: March 29, 1983

RE: Recommendation of Diversion Rate

This claim was filed with a diversion rate equivalent to slightly over 1.9 miner's inches per acre. The claim was supported by an evaluation and recommendation by the Soil Conservation Service. That agency cited a requirement of 2 miner's inches per acre. The SCS information along with several other sources were analyzed as a basis for recommending 1.0 cfs or 1.47 miner's inches per acre for this water right.

At this unit's request, Verl King of the Local Support Section evaluated the water needs for this irrigated land of Black's. His memorandum is in this file. For this 34 acres, Mr. King found a diversion requirement of 1.22 miner's inches per acre. He assumed a field efficiency of 65%. (Using the Food and Agricultural Organization cited below, Mr. King calculations would derive a conveyance efficiency of 86.9%.) Mr. King used ~~the~~ Figure 5 on page 40 of the Second Edition of the department's Water User's Handbook. This figure is a line graph utilizing the Moritz's formula for estimating delivery losses. Mr. King found a loss of 10% per mile. This estimation is calculated in his finding.

To explore the matter of ^{conveyance} ~~condense~~ loss further, this unit's conveyance loss computer program, LOSER, was used. This computer program is based on a linear regression of the Moritz formula. The disadvantage of this program, is that it tends to over estimate the losses in small diversion systems, such as this one, and under estimate the losses in large systems. The linear regression assumes a straight-line velocity relationship to the diversion rate, when in fact, this situation does not exist for canals or/and ditches. Assuming a seepage loss, C-value, of 1.5 feet per day, a diversion requirement of 1.6 miner's inches per acre would be required. Assuming a C-value 2.0 feet per day, a diversion requirement of 1.86 miner's inches would be required for this system. The former C-value is near the lower end of the seepage rates for sandy, loam soils while the value of 2.0 feet per day is at or above the middle of the range for this soil type. The two LOSER values above were calculated January 13, 1983. On March 28, 1983 the conveyance system for this right was examined further with LOSER. LOSER was run using only 24 acres under the long ditch system since the 10 acres east of the creek has a negligible head of ditch and the continuous delivery right at the field. Three LOSER runs were made assuming at the field of 1 miner's inch per acre. This assumes, calculations proved later, an irrigation application efficiency of 70%

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or greater. An efficiency of this magnitude was deemed unreasonable. Three more runs were made assuming the irrigation application of 0.6875 miner's inches per acre found by King. With C-values ranging from 1.5 feet per day to 2.5 feet per day, LOSER calculated a diversion at the creek for this 24 acres of .94 cfs, 1.1 cfs and 1.28 cfs. The LOSER problem cited above would apply to these calculations as well.

Assuming Mr. King's field efficiencies may have been too high, field efficiencies of 50 and 60% were examined using King's calculation methods. With a 50% field efficiency, a diversion requirement for this 34 acres would require 1.5 miner's inches per acre. With a 60% field efficiency, a diversion requirement for this water right would be 1.30 miner's inches per acre. Another source utilized for examining the water requirements for this water right was the publication "Guidelines for Predicting Crop Water Requirements." This publication distributed by the Food and Agriculture Organization of the United Nations is labeled ~~FAO~~ IRRIGATION AND DRAINAGE NO. 24, revised 1977. This publication is utilized for designing, estimating, and improving irrigation system in the San Luis Valley of Colorado which has climatic and soils characteristics similar to southwest Idaho. The material in this publication is used there by LeRoy Salizar of ~~the~~ Utah State University, Logan, Utah. This lengthy publication covers many aspects of predicting crop water requirements, but most specifically at pages 79, 80 and 81, covers irrigation efficiencies applicable to the situation under study. These pages are within this file. Table 37 lists some field application efficiencies ranging from .5 to .7 under corrugation irrigation systems as found by the Soil Conservation Service. The International Institute for Land Reclamation and Improvement found irrigation efficiencies under surface methods to be between .5 and .6 ~~cfs~~. A corrugation method efficiency was not cited but for borders and furrow methods of irrigations, .58 and .57 were respectively cited. Distribution efficiencies were cited in the .3 to .65 range and field canal efficiencies under unlined conditions for small tracts was found to be .7.

The recommendation for this water right using all of these materials rested on several factors. The field efficiency cited by Mr. King of 65% was recognized and a distribution efficiency of 65% was recognized. The distribution efficiency is greater than that recognized by Mr. King. The 1.0 cfs recommended for this water right on 34 acres results in a diversion rate of 1.47 miner's inches per acre.

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revised
1977

guidelines for predicting crop water requirements

by

j. doorenbos
water management specialist
land and water development division
fao, rome

and

w.o. pruit
fao consultant
irrigation engineer
university of california
davis, california, u.s.a.

in consultation with
a. aboukhaled (lebanon), j. damagnez (france),
n.g. dastane (india), c. van den berg and p.e. rijtema (netherlands),
o.m. ashford (wmo), m. frère (fao) and fao field staff

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome 1977

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When the leaching efficiency (Le) is 100 percent the water needed to satisfy both ET_{crop} and LR is equal to (ET_{crop} - Pe)/(1 - LR). The leaching efficiency (Le) has been shown to vary with the soil type, and particularly with the internal drainage properties of the soil and the field. Since Le can be as low as 30 percent for cracking and swelling heavy clays and go to 100 percent for sandy soils, it must be measured at a most early date for the area under investigation.

EXAMPLE:

Given:

Cotton; ET_{crop} = 1065 mm/season; effective rainfall during growing season = 160 mm. From water analyses EC_w = 7 mmhos/cm. Irrigation by a surface method. Soil is slightly layered, medium textured with measured Le = 0.7.

Calculation:

$$LR = \frac{7}{5 \times 7.7 - 7} \times \frac{1}{0.7} = 0.32 \quad 100\% \text{ yield}$$

$$LR = \frac{7}{5 \times 9.6 - 7} \times \frac{1}{0.7} = 0.24 \quad 90\% \text{ yield}$$

$$LR = \frac{7}{5 \times 13 - 7} \times \frac{1}{0.7} = 0.17 \quad 75\% \text{ yield}$$

To meet seasonal ET_{crop} and LR depth of water required is respectively (1065 - 160)/(1 - LR) = 1330, 1190 and 1090 mm/season. Level of leaching requirement to be adopted must be based on available water at headworks, yields required and economic criteria. Timing of leachings must also be determined by available water supply at peak water demand periods.

The prediction of annual leaching requirements does not fully account for effect of type of salts, restrictive drainage conditions and excess rainfall. It does not cover waste water, trace metals and pesticides. Also, field water management practices when using saline water will affect yields. For detailed evaluation, references given should be consulted.^{1/}

(ii) Irrigation efficiency (E)

To account for losses of water incurred during conveyance and application to the field, an efficiency factor should be included when calculating the project irrigation requirements. Project efficiency is normally subdivided into three stages, each of which is affected by a different set of conditions:

Conveyance efficiency (Ec): ratio between water received at inlet to a block of fields and that released at the project headworks.

Field canal efficiency (Eb): ratio between water received at the field inlet and that received at the inlet of the block of fields.

Field application efficiency (Ea): ratio between water directly available to the crop and that received at the field inlet.

Project efficiency (Ep): ratio between water made directly available to the crop and that released at headworks, or $Ep = Ea \cdot Eb \cdot Ec$.

^{1/} Ayers, R.S. and Westcot, D.W. Water quality for agriculture. Irrigation and Drainage Paper No. 29. FAO Rome, Italy. 1976.
FAO/Unesco. Irrigation, Drainage and Salinity. An Intern. Source Book. Unesco, Paris. 1973.
Salinity Lab. Handbook No. 60. Diagnosis and Improvement of Saline and Alkali Soils. USDA, 1954.
FAO, Irrigation and Drainage Paper No. 7. Salinity seminar Baghdad. FAO Rome, Italy. 1972.
Unesco. Final report on the Gruesi Project, Tunisia. 1971.

Conveyance and field canal efficiency are sometimes combined as distribution efficiency (E_d), where $E_d = E_c \cdot E_b$; field canal and application efficiency are sometimes combined as farm efficiency where $E_f = E_b \cdot E_a$.

Factors affecting conveyance efficiency (E_c) are, amongst others, size of the irrigated acreage, size of rotational unit, number and types of crops requiring adjustments in the supply, canal lining and the technical and managerial facilities of water control. The field canal efficiency (E_b) is affected primarily by the method and control of operation, the type of soils in respect of seepage losses, length of field canals, size of the irrigation block and the fields. As can be expected, the distribution efficiency (E_d) has been shown to be particularly sensitive to quality of technical as well as organizational operation procedures ($E_d = E_c \cdot E_b$). Farm efficiency (E_f) is much dictated by the operation of the main supply system in meeting the actual field supply requirements as well as by the irrigation skill of the farmers.

Table 37 Conveyance (E_c), Field Canal (E_b), Distribution (E_d) and Field Application Efficiency (E_a)

			ICID/ILRI
<u>Conveyance Efficiency (E_c)</u>			
Continuous supply with no substantial change in flow			0.9
Rotational supply in projects of 3 000 - 7 000 ha and rotation areas of 70 - 300 ha, with effective management			0.8
Rotational supply in large schemes (> 10 000 ha) and small schemes (< 1 000 ha) with respective problematic communication and less effective management:			
based on predetermined schedule			0.7
based on advance request			0.65
<u>Field Canal Efficiency (E_b)</u>			
Blocks larger than 20 ha:	unlined		0.8
	lined or piped		0.9
Blocks up to 20 ha:	unlined		0.7
	lined or piped		0.8
<u>Distribution Efficiency ($E_d = E_c \cdot E_b$)</u>			
Average for rotational supply with management and communication adequate			0.65
sufficient			0.55
insufficient			0.40
poor			0.30
<u>Field Application Efficiency (E_a)</u>		<u>USDA</u>	<u>US(SCS)</u>
Surface methods			
light soils		0.55	
medium soils		0.70	
heavy soils		0.60	
graded border			0.60 - 0.75
basin and level border			0.60 - 0.80
contour ditch			0.50 - 0.55
furrow			0.55 - 0.70
corrugation			0.50 - 0.70
Subsurface			up to 0.80
Sprinkler, hot dry climate		0.50	
moderate climate		0.70	0.67
humid and cool		0.80	
Rice			0.32

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Water losses can be high during field application. Low application efficiency (E_a) will occur when rate of water applied exceeds the infiltration rate and excess is lost by runoff; when depth of water applied exceeds the storage capacity of the root zone excess is lost by deep drainage. With surface irrigation, field layout and land grading is most essential; uneven distribution of water will cause drainage losses in one part and possibly under-irrigation in the other part of the field resulting in very low efficiency. E_a may vary during the growing season with highest efficiencies during peak water use periods.

In the planning stage, efficiency values for the various stages of water distribution and application are estimated on the basis of experience. When estimated too high water deficiencies will occur and either selective irrigation and/or improvement in operational and technical control (lining, additional structures, etc.) will be required. When estimated too low the irrigation area is reduced, and the system is therefore over-designed and probably wasteful irrigation is practised. However, the former is commonly the case. Some indicative data are given in Table 37 which are applicable to well designed schemes in operation for some years and based mainly on a recent comprehensive ICID/ILRI survey and USDA and US(SCS) sources.^{1/}

EXAMPLE:

Given:

150 ha scheme, irrigation blocks of 10 ha with unlined canals, furrow irrigation, adequate management.

Calculation:

$$E_p = E_d \times E_a = 0.65 \times 0.65 \approx 0.4$$

1.2.4 Summary of Calculation of Seasonal and Peak Project Supply Requirements (V)

Once cropping pattern and intensity have been selected, irrigation requirements and water needs for leaching have been calculated and efficiency of the system estimated, the monthly, seasonal and yearly supply requirements for a given project acreage can be determined by:

$$V_i = \frac{10}{E_p} \sum_i \left[\frac{A(ET_{\text{crop}} - P_e - G_e - W_b)}{1 - LR} \right]_i \text{ m}^3/\text{period}$$

EXAMPLE:

Given:

From previous examples:							
crop	acreage A	ET _{crop}	P _e	G _e	W _b	LR	E _p
	ha	mm/year	mm	mm	mm	fraction	fraction
maize	90	840	20	-	-	0.22	0.4
berseem	90	400	150	90	-	0.22	0.4
cotton	60	1065	160	-	-	0.24	0.4
wheat	60	375	240	90	-	0.25	0.4

Project acreage 150 ha; cropping intensity 200%.

Calculation:

$$V = \frac{10}{0.4} \left[\left[\frac{840 - 20}{1 - 0.22} \times 90 \right] + \left[\frac{400 - 150 - 90}{1 - 0.22} \times 90 \right] + \left[\frac{1065 - 160}{1 - 0.24} \times 60 \right] + \left[\frac{375 - 240 - 90}{1 - 0.25} \times 60 \right] \right] \approx 5.4 \times 10^6 \text{ m}^3/\text{year}$$

Similarly the monthly supply requirements can be determined.

1/ Bos M.G. and Nugteren J. On Irrigation Efficiencies. Publication 19. International Institute for Land Reclamation and Improvement, 89p. 1974.

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FIGURES FROM V. KING CALCULATIONS

50%

60%

FIELD EFFICIENCY

FIELD EFFICIENCY

LOSER

34 ACRES

ALFALFA
HAY
0.6875
M-1/AC
REPL. REQ

1.02 cfs
1.5 M-1/AC

0.88 cfs
1.30 M-1/AC

@ 2.0 FT/DAY

1.27 cfs
1.86 M-1/AC

@ 1.5 FT/DAY

1.08 cfs
1.6 M-1/AC

58% E on 24 ACRES
WEST OF CREEK.
57% E on 10 ACRES
EAST OF CREEK.

$E_p = 45.8\%$
 $E_d = 91.5\%$

$E_p = 52.9\%$
 $E_d = 88.5\%$

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CORN
0.515
M-1/AC
REPL. REQ

1.47 cfs
1.1 M-1/AC

1.21 TO 1.32
0.22 1.0 M-1/AC

1.57 cfs

1.19 M-1/AC

66 ACRES

0.56 MI. EARTH DITCH
0.20 MI. CONCRETE

ALFALFA
0.6875
M-1/AC
REPL. REQ

1.95 cfs
1.48 M-1/AC

1.64 cfs
1.24 M-1/AC

55% E_p

(FROM KINB)
FIELDS #1, #2 & #3

b. C.U.

~~9.68 @ GRAND VIEW Use 90~~
~~Ave Daily (JULY) = $\frac{2}{31} = 0.29" / \text{DAY}$~~
~~PETER. Day Use (60% Use Moisture)~~
~~= $0.6 (3.75) = 2.25 @ 0.29" / \text{DAY}$~~
~~IRR. FREQ = $\frac{2.25}{0.29} = 7.76 \text{ DAYS}$~~
~~USE 8 DAYS~~

c. /RR. FREQ =

e: $\frac{.33" / \text{DAY}}{12" (2)} = .0138 \text{ cfs/Ac}$
 $.6875 \text{ MI/Ac}$

@ 50% FIELD EFF = 1.375 MI/Ac
 Div. REQ #1 & #2 = $\left[10\% \text{ LOSS} \left(\frac{1.55 \text{ MI}}{1.0 \text{ LOSS}} \right) 1.375 \right] + 1.375$
 $= 1.588 \text{ MI/Ac}$
 #3 = $(10\%) \left(\frac{0.45}{1.0} \right) (1.375) + 1.375$
 $= 1.44 \text{ MI/Ac}$
 #4 = $(10\%) \left(\frac{0.25}{1.0} \right) (1.375) + 1.375$
 $= 1.41 \text{ MI/Ac}$

COLLEN PLACE - 34#
 50.924 MI
 1.02 CFS
 15 MI/Ac

@ 60% = 1.15 MI/Ac
 24Ac #1 & #2 = 1.168 MI/Ac
 10Ac #3 = 1.20
 #4 = 1.18

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@ 20 FT/DAY
 1.27 cfs
 1.86 MI/Ac
 @ 12 FT/DAY
 1.06 cfs
 1.6 MI/Ac

DVS 03/28/83

 * MACALLISTER'S MODIFICATION OF MORITZ *
 * LOSS CALCULATION FOR *
 * THE CULLEN DITCH *
 * WATER RIGHT NO. 02-1217 *

Q DIVERTED: 1.11 $\leftarrow 2^{1/2}$ M/Ac 24 Acres
 Q DELIVERED: .55
 PERCENTAGE LOSS: 101.8
 TYPE OF SOIL: OTHER
 SOIL CONSTANT= 2.00 (FEET/DAY)
 LENGTH OF HEAD OF DITCH: .57
 LENGTH OF DELIVERY SECTION: .98

$E_d = 49\%$
 $E_a = 60\%$
 $E_o = 29\%$

LOSS TABLE FOR HEAD OF DITCH

MILE	Q (CFS)	LOSS (CFS)
.57	.89	.22

$R_c = \text{Crop Requirement}$

$$\rightarrow R_c + \text{Loss}_{\text{APPL}} = \left(0.6875 \text{ M/Ac} \times 24 \text{ Ac} \cdot 0.02 \frac{\text{cfs}}{\text{M}} \right) + \text{Loss}_{\text{APPL}} = .55 \text{ cfs}$$

LOSS TABLE FOR DELIVERY

MILE	Q (CFS)	LOSS (CFS)	Q DELIVERED (CFS)
.98	.01	.34	.55

57-1217

$E_p = 42.25\%$

where $E_a = 65\%$ as found by Veril
 $E_d = 65\%$ from FAO (↑ from Veril's)

$$\left(\frac{1.06}{65\%} \times 24 \right) + (1.06 \times 10) = 49.74 \text{ M}$$

$$1.00 \text{ cfs} \quad 1.47 \text{ M/Ac}$$

$$1.11 \text{ cfs} + \left(1.5 \text{ M/Ac} \times 10 \text{ Ac} \cdot 0.02 \frac{\text{cfs}}{\text{M}} \right) = 1.34 \text{ cfs}$$

$$1.97 \text{ M/Ac}$$

$1.06/70\%$

$$\left(\frac{1.06}{70\%} \times 10 \right) + (1.06 \times 24)$$

95.48 cfs

93.68 cfs

$E_p = 50\%$

1.38 M/Ac

DVS 03/28/83

* MACALLISTER'S MODIFICATION OF MORITZ *
* LOSS CALCULATION FOR *
* THE CULLEN DITCH *
* WATER RIGHT NO. 02-1217 *

Q DIVERTED: 1.28 TYPE OF SOIL: OTHER
Q DELIVERED: .55 SOIL CONSTANT= 2.50 (FEET/DAY)
PERCENTAGE LOSS: 132.8 LENGTH OF HEAD OF DITCH: .57
E_d = 43% LENGTH OF DELIVERY SECTION: .98
E_a = 60%
E_p = 25%

LOSS TABLE FOR HEAD OF DITCH

MILE	Q (CFS)	LOSS (CFS)
.57	.99	.29

LOSS TABLE FOR DELIVERY

MILE	Q (CFS)	LOSS (CFS)	Q DELIVERED (CFS)
.98	.00	.44	.55

DVS 03/28/83

* MACALLISTER'S IRRIGATION OF TURLITZ *
* LOSS CALCULATION FOR *
* THE CULLEN DITCH *
* WATER RIGHT NO. 02-1217 *

Q DIVERTED: .94 TYPE OF SOIL: SANDY LOAM
Q DELIVERED: .55 SOIL CONSTANT= 1.50 (FEET/DAY)
PERCENTAGE LOSS: 70.8 LENGTH OF HEAD OF DITCH: .57
LENGTH OF DELIVERY SECTION: .98

$E_d = 50\%$
 $E_a = 60\%$
 $E_p = 35\%$

----- LOSS TABLE FOR DITCH
.57 | .79 | .15

LOSS TABLE FOR DELIVERY

MILE	Q (CFS)	LOSS (CFS)	Q DELIVERED (CFS)
.98	.00	.24	.55

DVS 03/28/83

* MACALLISTER'S MODIFICATION OF MORITZ *
* LOSS CALCULATION FOR *
* THE CULLEN DITCH *
* WATER RIGHT NO. 02-1217 *

Q DIVERTED: 1.17 TYPE OF SOIL: OTHER
Q DELIVERED: .48 *1 in/Ac* SOIL CONSTANT= 2.50 (FEET/DAY)
PERCENTAGE LOSS: 144.1 LENGTH OF HEAD OF DITCH: .57
? Ep = 41% enough Ea? LENGTH OF DELIVERY SECTION: .98

LOSS TABLE FOR HEAD OF DITCH

MILE	Q	LOSS
	(CFS)	(CFS)
.57	.89	.28

LOSS TABLE FOR DELIVERY

MILE	Q	LOSS	Q DELIVERED
	(CFS)	(CFS)	(CFS)
.98	-.01	.42	.48

DPS 08/28/83

* MACALLISTER'S MODIFICATION OF MORITZ *
* LOSS CALCULATION FOR *
* THE CULLEN DITCH *
* WATER RIGHT NO. 07-1217 *

Q DIVERTED: .99 TYPE OF SOIL: OTHER
Q DELIVERED: .48 ←
PERCENTAGE LOSS: 106.7 SOIL CONSTANT= 2.00 (FEET/DAY)
? $E_p = 48\%$ enough E_a ? LENGTH OF HEAD OF DITCH: .57
70% E_a LENGTH OF DELIVERY SECTION: .98

LOSS TABLE FOR HEAD OF DITCH

MILE	Q	LOSS
	(CFS)	(CFS)
.57	.79	.21

LOSS TABLE FOR DELIVERY

MILE	Q	LOSS	Q DELIVERED
	(CFS)	(CFS)	(CFS)
.98	-.01	.32	.48

304 ft for loss

DVS 03/28/83

* MACALLISTER'S MODIFICATION OF MORITZ *
* LOSS CALCULATION FOR *
* THE CULLEN DITCH *
* WATER RIGHT NO. 02-1217 *

Q DIVERTED: .84 TYPE OF SOIL: SANDY LOAM
Q DELIVERED: .48 ← SOIL CONSTANT= 1.50 (FEET/DAY)
PERCENTAGE LOSS: 74.9 LENGTH OF HEAD OF DITCH: .57
? $E_p = 57\%$ enough E_a ? 10% 60 LENGTH OF DELIVERY SECTION: .98

LOSS TABLE FOR HEAD OF DITCH

MILE	Q	LOSS
	(CFS)	(CFS)
.57	.70	.14

LOSS TABLE FOR DELIVERY

MILE	Q	LOSS	Q DELIVERED
	(CFS)	(CFS)	(CFS)
.98	-.01	.22	.48

MEMORANDUM

TO: 57-1217
FROM: Don Shaff *DS*
DATE: March 11, 1983
RE: Review Analysis

The priority date claimed for this water right is apparently correct. A posted notice bearing the same date was submitted by the claimants. A location of a ranch notice filed the day after the claimed day of priority for the water right was submitted also. Joseph ^{Hims}~~Hims~~ in filing his posted notice of a water right in 1886 cited that his water right would come after the water right developed by Paul Cullen~~er~~, the claimant's predecessor. The government survey plat approved in 1898 included irrigation ditches in the vicinity of the present ditches on the claimant's land. The surveyors note in June, 1898 describe the natural and manmade features along the line between sections 23 and 26 of Township 7S, Range 2E. The surveyors found two ditches six feet wide, one on each side of the creek. Between the ditches and the creek were cultivated lands as described by the surveyors. The government survey is conclusive evidence to allow the doctrine of *relation* to be applied to the posted notice when combined with other documentary evidence.

Apparently the water right has been exercised near continuously according to affidavits and dispositions filed earlier in this case. None of the information reviewed indicates any interference with this water right.

The irrigated acreage is smaller than the amount claimed. The 15 acres

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described by the claimants as up on the plateau was admittedly not used since 1957 including 1982. The ^{later}~~later~~ year was, according to the claimants, the best water year they have had since 1951. Even with an abundant, comparatively, supply of water the claimants choose not to irrigate this ground. Therefore, any water right that existed on this 15 acres has since been forfeited. The ASCS photograph dated May 9, 1969, shows 23.9 acres irrigated in the field below the corral and 10.4 acres irrigated from the house and upstream. The same approximate number of acres has been irrigated each year since including 1982. This conclusion was drawn from U-2 photographs in 1977 and 1980 and observations in the field in 1982.

The diversion rate for this water right will be discussed in a later memo when the results of evaluating the water needs for this land are completed.

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State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

March 8, 1983

MEMO

RECEIVED
MAR 10 1983

TO: Dave Shaw and Don Shaff
THRU: Wayne Haas and Norm Young
FROM: Verl G. King
SUBJECT: BLACK'S IRRIGATION SYSTEM

Department of Water Resources
Western Regional Office

An analysis has been made of Black's irrigation system to determine the diversion requirements from Shoofly Creek to meet irrigation needs (copy enclosed). Based on the analysis and the information available, these requirements were found to be as follows:

at PD #1 Q = 17 M-I from Shoofly Creek
and 11 M-I from Spring
at PD #2 Q = 11.1 M-I from Creek
at PD #3 Q = 10.9 M-I from Creek
at PD #4 Q = 52.2 M-I (from Creek or Well)
Total = 102.2 M-I (for 109.0 Acs)

If you have any questions concerning this analysis, please let me know.

Also enclosed is a copy of the Water Needs Evaluation write-up with an additional paragraph to page 3.

VGK:mb

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BLACK'S IRR. SYSTEM
WATER NEEDS

3/7/83

28

#

DATA:

PARCEL No. 1 (10 AC. + 13 AC = 23 AC., AND 10 AC.)

CROP = ALFALFA

L (PD#1 to FIELD#1) = 0.57 Mi.

BELOW FIELD#1 SPRING ADDS 0.22 CFS TO DITCH.

L (BETWEEN FIELDS #1 & #2 = 0.75 Mi.

BELOW FIELD #1 RUNOFF PLUS SPRING FLOW

CAN BE DIVERTED TO THE CREEK ABOVE PD#2.

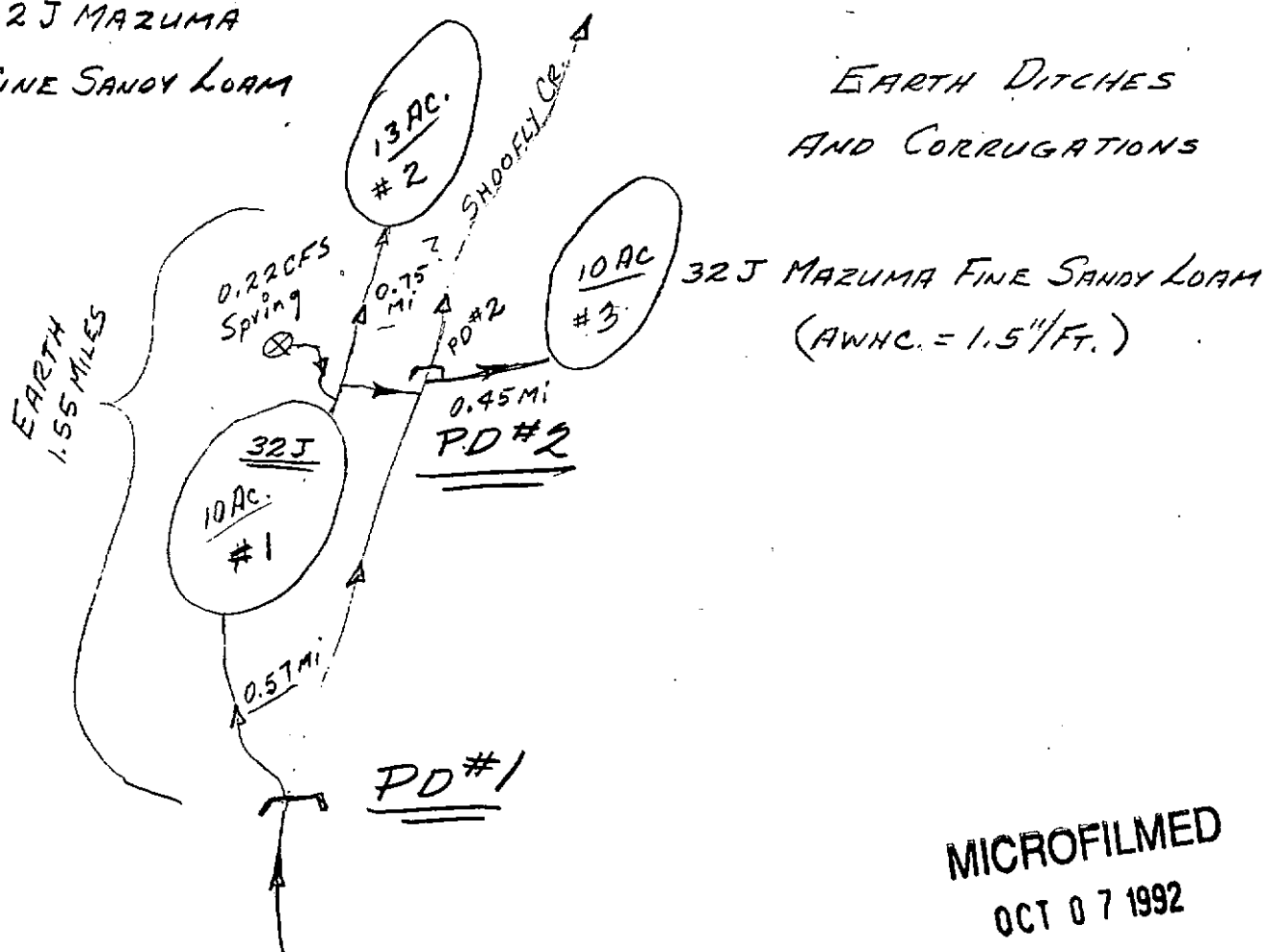
AT PD#2 WATER IS DIVERTED TO FIELD#3

L (TO FIELD #3) = 0.45 Mi.

32 J MAZUMA

FINE SANDY LOAM

EARTH DITCHES
AND CORRUGATIONS

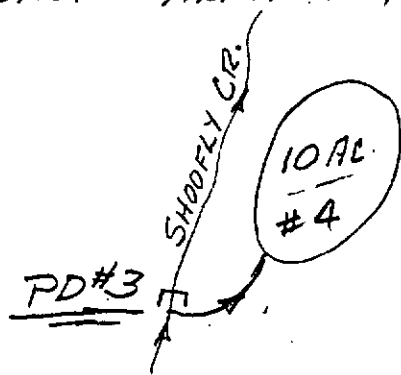


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PARCEL No. 2 (10 Ac.)

CROP = ALFALFA & GRAIN

USE CORRUGATION



SIC PREATERSON - SHARLAND - ABGESE COMPLEX

PREATERSON = GRAVELLY SANDY CLAY LOAM = 18" DEPTH

SHARLAND = SANDY CLAY LOAM (12") - GRAVELLY SANDY LOAM (4") = 16"

ABGESE = GRAVELLY LOAMY SAND = 60"

(AWHC = 1" to 2.5"/ft; USE 1.5"/ft.)

PARCEL No. 3 (66 Ac.)

CROP = CORN

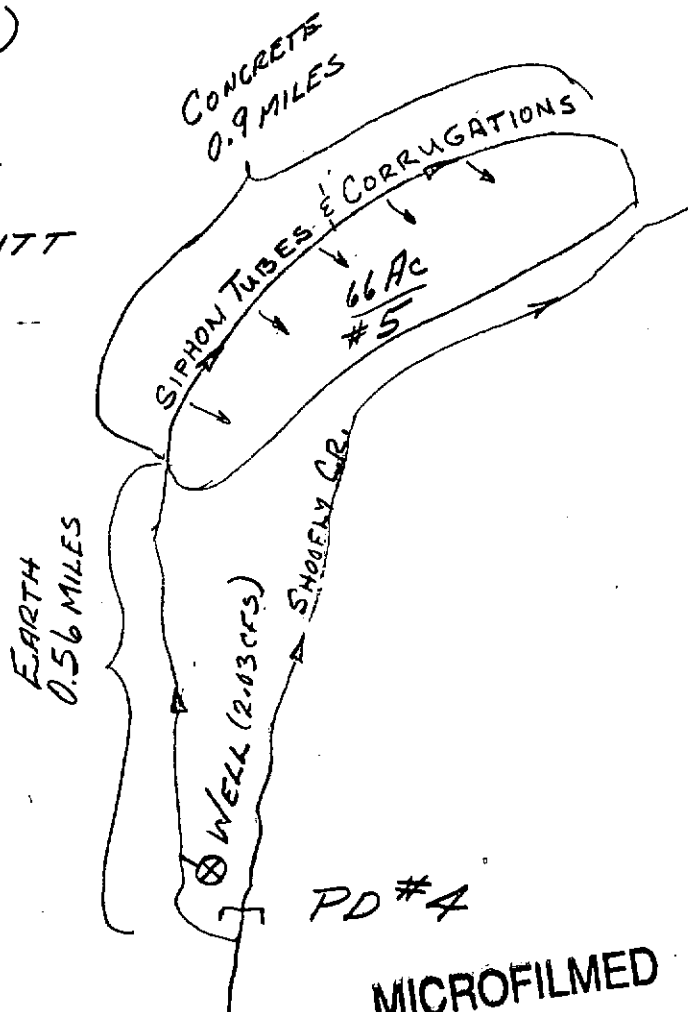
77A BYLO - GABBUTT
SILT LOAM
(FIELD & DITCH)

BYLO = SILT CLAY LOAM (30")

SILT LOAM (30") = 60"

GARBUTT = SILT LOAM = 60"

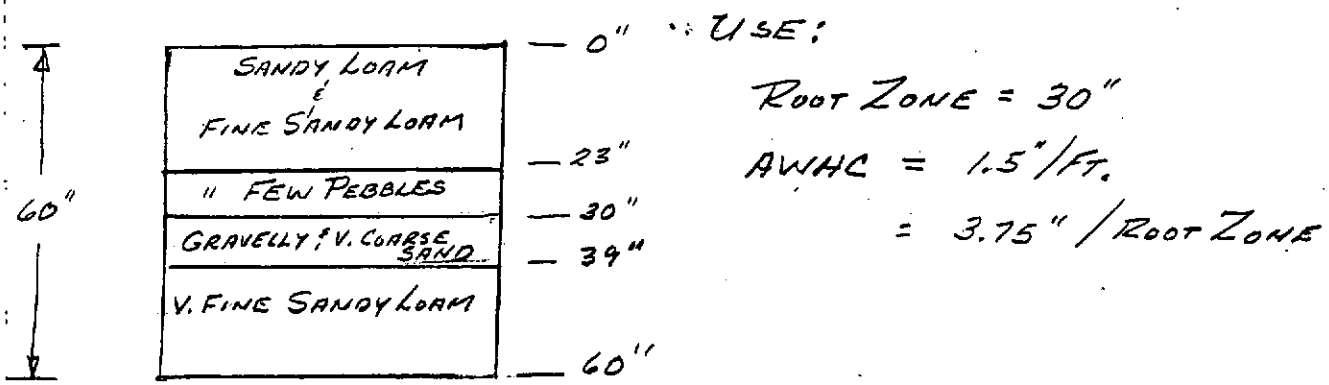
(AWHC = 2.4"/ft)



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ANALYSIS:

1. FIELDS #1, #2 & #3 CROP = ALFALFA & ARE FINE SANDY LOAM SOILS (MAZUMA)



6. CONSUMPTIVE USE (ALF) @ GRANDVIEW.

PEAK MONTH = JULY @ 9.68" (MODIFY: CALDWELL = 8.56 WEISER = 8.75. USE 8.75)

AVE. DAILY (JULY) = $\frac{8.75}{31} = 0.28$ "/DAY (SCS = 8.19)

PK. PERIOD DAY USE (60% USEABLE MOISTURE)
= $0.6(3.75) = 2.25$ " @ 0.28"/DAY

IRR. FREQ = $\frac{2.25}{0.28} = 8.04$ DAYS.

USE 8.0 DAYS).

FROM TABLE 5 PK. PERIOD DAILY USE = 0.33"

c. IRR. FREQ. = $\frac{2.25$ "USEABLE / 0.33 "/DAY = 6.82 DAYS

USE 7 DAYS

d. REPLACEMENT REQ. = $(7)(0.33) = 2.31$ "

- e. STREAM FLOW REQ.

$\frac{0.33$ "/DAY = 0.0138 CFS/AC.
 $\frac{(12")}{(2)} = 0.6875$ M-I/AC.

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@ 65% FIELD EFF. = 1.06 M-I/AC. < 2% SLOPE

DIVERSION REQ. #1 & #2 = $(10\%)(\frac{1.55}{1.0})(1.06) + 1.06$

" " = 1.22 M-I/AC. ←

	<u>USED</u>	<u>REMAIN. AVAIL.</u>	<u>REPL.</u>	<u>BAL.</u>
				5.76"
1. 14(.33)	4.62	1.14	3.31	3.45"
2. 14(.30)	4.20	EXCEEDS AVAIL.		

$$REPL. 70\% = 0.7(4.62) = 3.23"$$

1. 14(.33)	4.62	1.14	3.23	4.37
	3.64	0.93		4.16
2. 14(.30)	4.20	0.17	3.23	3.40
	3.08	— OK		
3. 14(.26)	3.64	EXCEEDS AVAIL.		

$$REPL. 80\% = 0.8(4.62) = 3.69"$$

1. 14(.33)	4.62	1.14	3.69	4.83
2. 14(.30)	4.20	0.63	3.69	4.32
3. 14(.26)	3.64	LESS THAN REPL. OK		

$$REPL. 75\% = 0.75(4.62) = 3.46"$$

1. 14(.33)	4.62	1.14	3.46	4.60
2. 14(.30)	4.20	0.40	3.46	3.86
3. 14(.26)	3.64	0.22	3.46	3.68
4. 14(.24)	3.36	LESS THAN REPL. OK. <u>USE</u>		

$$\frac{3.46"}{14 \text{ DAYS}} = 0.2471"/\text{DAY}$$

$$= \frac{0.2471"}{(12)(2)} = 0.0103 \text{ CFS/AC. MICROFILMED}$$

$$= 0.515 \text{ M-I/AC. OCT 07 1992}$$

$$@ 70\% \text{ FIELD EFF.} = 0.734 \text{ M-I/AC.}$$

$$\begin{aligned} \text{DIVERSION REQ.} &= \left(\frac{0.56}{1.0}\right)(10\%)(0.734) + \left(\frac{0.9}{1.0}\right)(2\%)(0.734) + 0.734 \\ &= \underline{\underline{0.79 \text{ M-I/AC.}}} \end{aligned}$$

6.
6.86
14.22

SUMMARY:

DIVERSION FOR FIELDS #1 & #2

1.22(23) - SPRING FLOW =

28 M-I - 11.0 M-I = 17 M-I

DIVERSION FOR FIELD #3

1.11(10) = 11.1 M-I

DIVERSION FOR FIELD #4

1.09(10) = 10.9 M-I

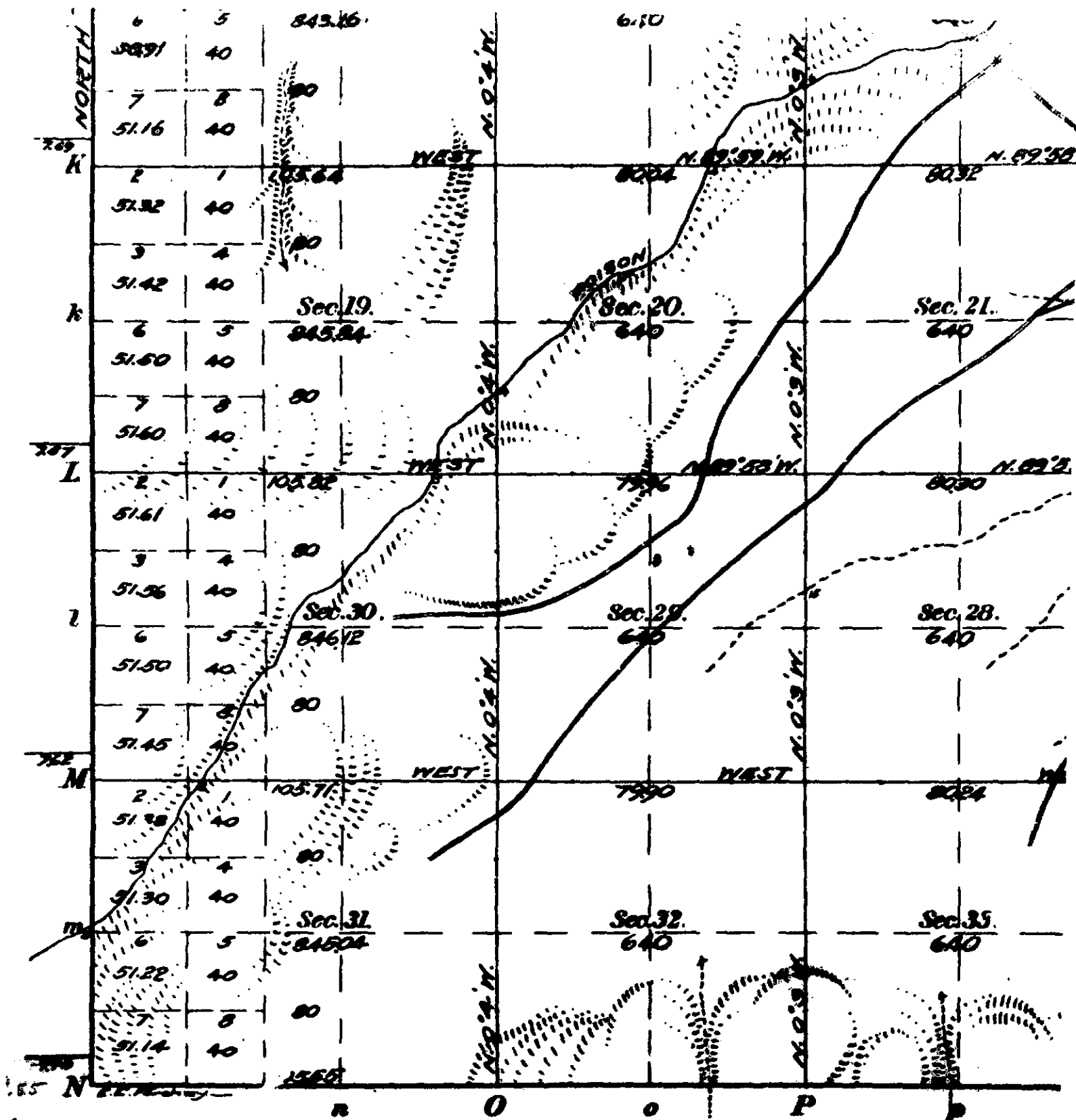
DIVERSION FOR FIELD #5

0.79(66) = 52.2 M-I (FROM STRM
OR WELL -
66.0 M-I
LIMIT)

 91.2 M-I, STRM. DIV.

 11.0 " SPRING DIV.

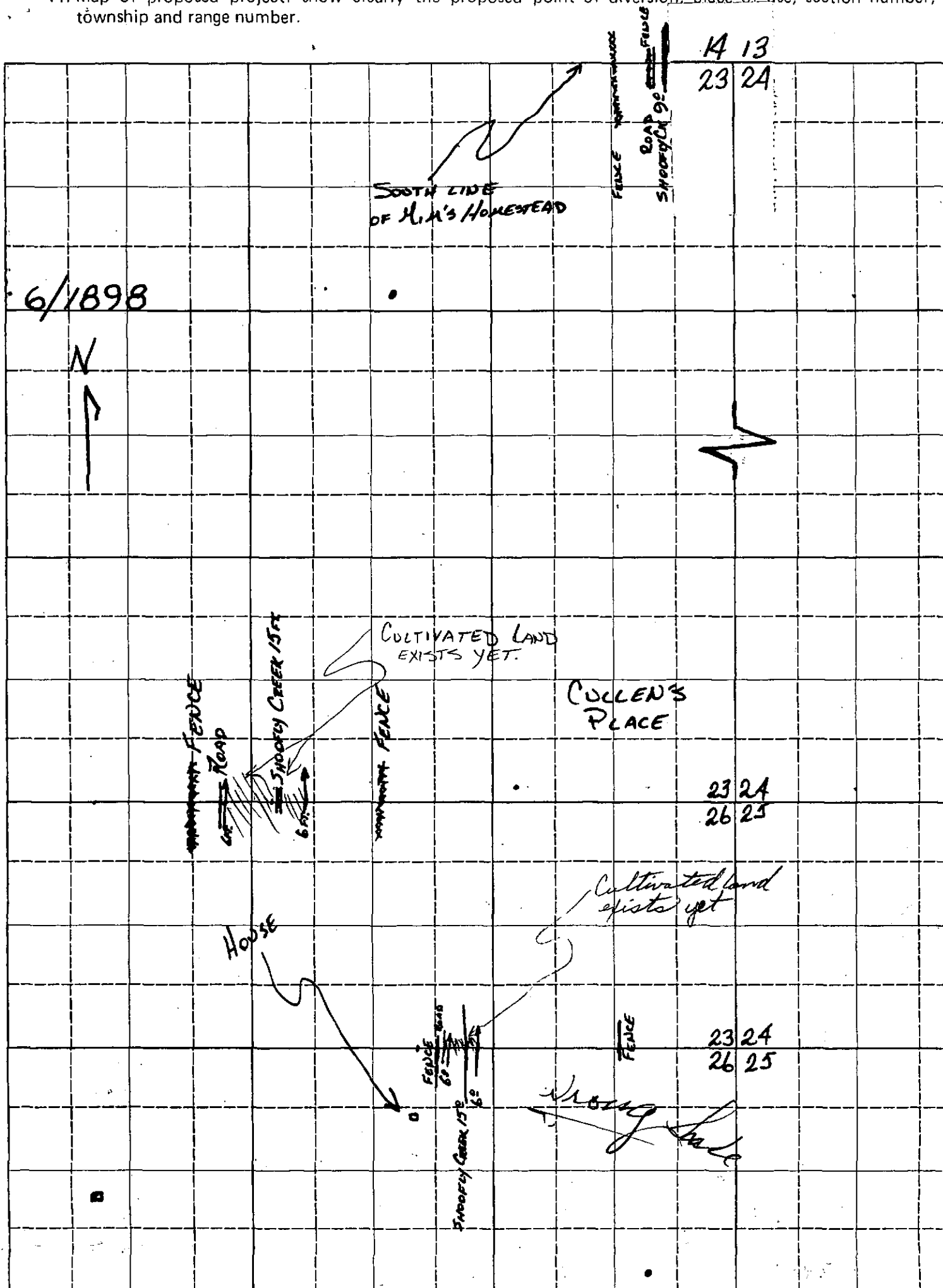
 102.2 " TOTAL (FOR
109.0 Acs.)



Total number of Acres

Survey Designated	By Whom Surveyed	Date of Contract	Amount of Survey	When Surveyed
Scott's Boundary lines	W. F. H. H. H. H.	June 28, 1897	6 28 30	June 16, 18
Subdivisions			61 13 62	June 17-18
Current lines			11 5 12	
Boundary lines			13 7 14	Oct 6-9, 1
			15 8 16	July 1, 1
Glennwood	John H. H. H.	July 1, 1897	17 9 18	Aug 9, 1

11. Map of proposed project: show clearly the proposed point of diversion, place of use, section number, township and range number.



Scale: 2 inches equal 1 mile.
1 660 ft.

BE IT KNOWN that the undersigned hereby makes application for permit to appropriate the public waters of the State of Idaho as herein set forth.

(Applicant)

PROPOSED FINDING OF W

	PRIORITY DATE	USE	USE PERIOD FROM TO
--	------------------	-----	-----------------------

ITCH Co. 12/00/1882 IRRIGATION 3/15 11/1

60

DE USE
SPOONWELL

3/02/1887 IRRIGATION 7/15 11/15

10/22/1893 IRRIGATION 3/15 11/15

1/02/1895 IRRIGATION 3/15 11/15

1/11/1901 IRRIGATION 3/15 11/1

1/01/1902 " 3/15 11/1

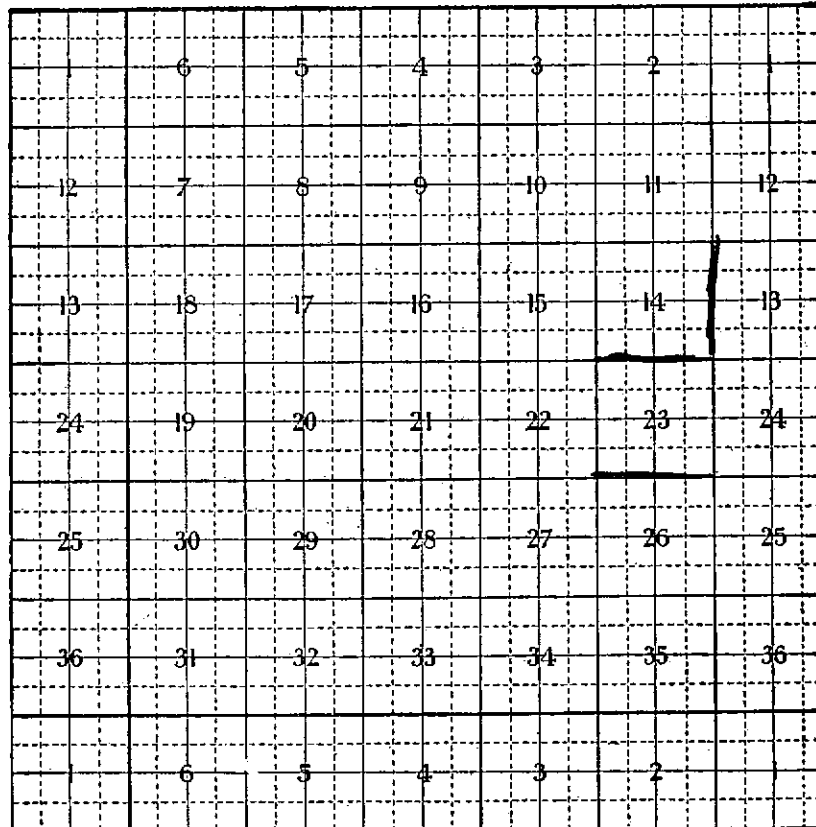
1/11/1910 "

1/15/1910 "

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SMALL TOWNSHIP AND ADJOINING SECTIONS DIAGRAM

State Office		District Office
Township 75	Range 2E	Meridian



Vol 155
34-35, 21-22, 36-38, 23-26

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SURVEYOR'S NOTES

PAGE 1 OF

LINE BTW S. 13 & 14, T 7S, R 2E FROM S. COR. p. 25, Vol. 155

6/1898

462 FT ~~SHOOFLY CREEK~~ OLD ROAD CROSSED

864⁶ FT SHOOFLY CREEK ABOUT 6 FT WIDE

891 FT A DITCH, 3 FT. WIDE COURSE NE

943⁸ FT A DITCH, ABOUT 3 FT. WIDE. COURSE NE

1062⁶ FT A DITCH, ABOUT 4² FT WIDE. COURSE NE

1214⁴ FT A FENCE COURSING NW & SE

1237⁵ FT. A DITCH, ABOUT 4⁵ FT WIDE COURSE NE

1313⁴ FT A DITCH, ABOUT 4⁵ FT WIDE COURSE NE

1339⁸ FT A FENCE COURSE NE & SW

1346⁴ FT A ROAD COURSE NE & SW

1848 FT A HOUSE EAST OF LINE ABOUT 264 FT.

LINE BTW S. 26 & 35, T 7S, R 2E FROM E COR. p. 33, Vol. 155

3854⁴ FT SHOOFLY CREEK, ABOUT 15 FT. WIDE

LINE BTW S. 23 & 26, T 7S, R 2E FROM ^E~~SE~~ COR. p. 35, Vol. 155

1914 FT A FENCE COURSE N & S

2316⁶ FT A DITCH. ABOUT 6 FT WIDE COURSE N. ENTER CULTIVATED FIELD
COURSE N. & S.

2475 FT SHOOFLY CREEK ABOUT 15 FT WIDE

2758⁸ FT LEAVE CULTIVATED FIELD COURSE N & S. A DITCH ABOUT 6 FT WIDE
COURSE N.

2772 A ROAD

2933⁷ A FENCE

3300 COLLAM'S (COLLEN'S) HOUSE BEARS S. ABOUT 1056 FT.

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LINE BTW S. 14²³, T 75, R 2E FROM ^E~~E~~ COR. p. 37-38, Vol. 155.

346⁵ FT SHOOFLY CREEK ABOUT 9 FT WIDE

419² FT A ROAD

452¹ FT A FENCE

633⁶ FT A FENCE

No ditches intersected on this line June 18, 1898

LINE BTW S. 7¹⁸, T 75, R 3E FROM W. COR. p. 83-84, Vol. 149, 7/14/18.

52⁸ FT OLD WAGON ROAD COURSE NE-SW

3735⁶ FT DRY WATER COURSE 30 FT WIDE, COURSE NE.

LINE BTW S. 3¹⁴, T 75, R 3E FROM S. COR. p. 96, Vol. 149

4019⁴ FT WAGON ROAD

4342⁸ FT DENSE WILLOWS COURSE E & W

4646⁴ FT DRY BED SHOOFLY CREEK ABOUT 23 FT. WIDE, COURSE E. LEAVES WILLOWS.

LINE BTW S. 4⁵, T 75, R 3E FROM S. COR. p. 98-99, Vol. 149

724⁰⁷ FT A FENCE COURSE E & W

993³ FT A DITCH, ABOUT 3 FT WIDE, COURSE E.

1049⁴ FT A DITCH, ABOUT 3 FT WIDE, COURSE E.

1115⁴ FT DRY BED OF SHOOFLY CREEK ABOUT 15 FT WIDE, COURSE E.

1122 FT DENSE WILLOWS

1207⁸ FT A DITCH ABOUT 4⁵ FT, COURSE E. ALONG FENCE

1237⁵ FT CORRAL FENCE COURSE NW-SE

1255⁹⁸ FT A DITCH ABOUT 3 FT WIDE COURSE E.

1300³ FT LEAVE WILLOWS

1305⁴⁰ FT FENCE COURSE NE-SW

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1412⁴ FT A STABLE BEARS E ABOUT 15 FT DISTANCE.

1425⁶ FT TURMASSES (TURMIS'S) HOUSE BEARS E. 330 FT DISTANCE.

1432² FT FENCE COURSE E-W

1485 FT FENCE COURSE E-W

1590⁶ FT WAGON ROAD COURSE E-W

LINE BTW S. 7¹/₈, T 7S, R 3E FROM S. COR. P. 84-85, Vol. 149

2836 FT DRY BED SHOOFLY CREEK, ABOUT 121 FT WIDE, 10 FT DEEP, COURSE N.

3781⁸ FT OLD WAGON ROAD COURSE NE-SW

3953⁴ FT A DITCH ABOUT 7⁵/₈ FT WIDE, COURSE NE

4032⁶ FT WAGON ROAD, COURSE N 25° E & S 25° W

4818 FT DRY BED POISON CREEK 303 FT WIDE, 20 FT DEEP, COURSE E.

Copied from Vol. 149, ~~p. 85~~ 86
~~From~~ Cont. from p. 85

and 8

- 12.30 Over gently rolling ground, through dense undergrowth
Dry bed of Shoofly Creek 150 yds wide,
course N. E., 10 ft deep.
- 25.60 Wagon road, course N. 20° E.
- 30.00 Dry bed of Poison Creek 15 ft. deep, course N. E.
- 37.50 Leave creek bed from S.W., enter dense undergrowth
- 40.03 Set a lava stone, etc.
- 60.07 The Cor. of Secs 5, 6, 7, & 8.
Road, gently rolling
Soil, sandy loam, 1st rate
No timber
Dense undergrowth 72.07 ch
S. 85° 56' W on random line bet. Sec. 6 & 7

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Subdivision of T. 7 S. R. 2 E. continued

chain

80.00

N. of cor.
The cor. of sec. 25, 24, 35 and 36
Sand rolling
Silt 3rd cut
No timber

40.00

N. 0° 1' W. lat. sec. 25 and 26
Over rolling land, through
settling underground
Set a breast about 14 x 9 x 6 in

77.70
80.00

10 in in the ground for 4 ac. cor.
marked 1/4 on N. face; dig pits 18
x 18 x 12 in 11 and 8. of about 3 ft. dirt
and raised a mound of earth
3 1/2 ft. base 1 1/2 ft. high N. of cor.
Old road course N. W. and S. E.
Set a breast about 15 x 9 x 7 in
10 in in the ground for cor. of
sec. 23, 24, 25 and 26, marked
with 7 notches on S. and 1 notch
on E. edges; dig pits 18 x 18 x 12
in in each sec. 5 1/2 ft. dirt and
raised a mound of earth 4 ft.
base 7 ft. high N. of cor.

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Subdivision of T. 7 S. R. 2 E. continued

chain

Sand rolling
Silt 3rd cut
No timber

40.00
79.94

S 84° 56' E. on a random line
lat. sec. 24 and 25
Set timber 4 ac. cor.
Subtract E. body of the 5th. 6th.
N. of cor. of sec. 19, 24, 25 and 30
which is a stone marked and
outlined as described by the
Surveyor General
Thence S more

39.97

64.00
71.00

N. 84° 53' W. on a true line lat.
sec. 24 and 25
Over rolling land, through
settling underground
Set a breast about 15 x 8 x 6 in
10 in in the ground for 4 ac.
cor marked 1/4 on N. face; and
raised a mound of about 2 ft.
base 1 1/2 ft. high N. of cor.
Road course N. W. and S. E.
Road course N. and S.

Subdivisions of Q. 7 S. R. 1 E, continued

Sun 3rd and
Mo kinder

S 89° 53' E, on a standard line
dist. across 12' and only

Get Humphreys car,
Lumberport & body of the 7th, 30
also H. of car. of accs. 13, 18, 19th Feb
which is a above marked and
withstand as described by the
S^{rs} Surveyor General
Thames & me

N. 89° 40' W. on a line line

but. acc. 13th and out
over walking land, through
a little undergrowth

Sat. at least about 12 x 10 x 8 mi

Old road square N.E.S.
Some rolling land, several
over hilly land square N.E.S.,

67.50
69.00

Subdivision of T7 S. R. 2 E. continued

The cor. of aces. 13, 14, 23 and 24
 found rolling and hilly
 land 3rd and 4th
 No timber

11,000' W. bet. aces. 13 and 14
 Over hilly land, descending
 through scattering undergrowth
 Road course N.E. and S.W.
 foot of descent, show 5th creek
 4000' wide course N.E.

3rd and 4th
 Ditch 700' wide course N.E.
 Ditch 700' wide course N.E.
 Ditch 300' wide course N.E.
 3rd and 4th
 Ditch 300' wide course N.E.

1840
 Ditch 300' wide course N.E.
 1875
 Ditch 300' wide course N.E.
 1990
 Ditch 300' wide course N.E.
 2030
 Road course N.E. and S.W.
 2040
 Road course N.E. and S.W.
 2800
 Road course N.E. and S.W.
 4000
 Road course N.E. and S.W.

Set a barrel stone 18x7x6
 in 12 in. in the ground for

Subdivision of T7 S. R. 2 E. continued

4 acres cor. marked 1/4 on W. fence
 and raised a mound of stone
 17 ft. high 10. of cor.
 drain course N.E.

Road course S.W.
 Set a barrel stone 16x7x6
 in 11 in. in the ground for cor.
 of aces. 11, 12, 13 and 14, marked,
 with 4 notches on S. and 1 notch
 on E. edge; dug pits 15x15x12 in
 in each ace. 5th, 6th, 7th, and
 raised a mound of earth 4 ft.
 high 17 ft. high W. of cor.
 found hilly and rolling
 land 3rd and 4th
 No timber

5.8940 E. on a mound
 line bet. aces. 12 and 13
 Set trip 1/4 ace. cor.
 Subdivided E. half of the
 3/4, at cor. of aces. 12, 13, 14 and
 18, which is a stone marked
 and witnessed as described

4000
 5700
 8000

Subdivision of T 7 S. R 2 E. continued

claiming	lot. area; 26 and 35
4000	Set timber, 4 ac. cor, distance N. 1/2 sec. 5. line at cor. of area; 75, 76, 35 and 36
8000	Thence ⁹ m on a true line West, lot. area; 26 and 35 Over rolling land, through acattering undergrowth Set a breast stone 152 x 9 x 10 10' in in the ground for 4 ac. cor, marked 1/4 on N. line; and raised a mound of stone 7 ft, base 1 1/2 ft. high N. of cor, Top of Shoshilly Creek bluff corner N and S. breast was mountain and land front of descent about 100 ft. below top of bluff Shoshilly Creek 10 x 10 wide corner N. breast Top of bluff about 100 ft. breast above creek, corner N and S, 1/4 The cor. of area; 76, 77, 34 and 35

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Subdivision of T 7 S. R 2 E. continued

claiming	Sand rolling and mountainous land 3 rd sec No timber Mountainous land 7500 clear
4000	N. 1/2 21 N. lot. area; 26 and 77 Over rolling land, through acattering undergrowth Set a breast stone 17 x 8 x 6 in 12' in in the ground for 4 ac. cor, marked 1/4 on N. line; and raised a mound of stone 7 ft. base 1 1/2 ft. high N. of cor, Set a breast stone 15 x 9 x 6 in 9. in in the ground for 4 ac. cor; 77, 73, 76 and 77, marked with 7 notches on S and E. edges; and raised a mound of stone 7 ft. base 1 1/2 ft. high N. of cor, bank rolling hill east into No timber East on a sandstone line

Subdivision of T 7 S. R 2 E. continued

chain	last. area. 73 and 76
4000	Set line. 14 ac. cor.
8007	Subtract 11 and 8 line 78th S. of
	cor. of sec. 23, 24, 25 and 26
	Thence S
	S. 89° 57' W. on old line
	last. area. 73 and 76
	Over rolling land, through
	settling undergrowth
7405	Top of Shively Creek bluff, corner
	N. and S., descent over mountain
	and land.
7900	Thence course N. and S.
3700	Foot of descent, about 75 ft.
	below top of bluff. Thence over bottom land
3510	to old 48th. wide course N.
	center cultivated field corner N. and S.
3750	Shively Creek 108th. wide course
	N.
3003	Set a bear stone 16x8x5 in. 11 in
	in the ground for 4 ac. cor.
	marked is on N. line; dug pits
	18x18x12 in. E and W. of above 3
	ft. dist. and raised or mound

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Subdivision of T 7 S. R 2 E. continued

chain	of earth 31 ft. line, 15 ft. high N. of cor.
4180	Thence cultivated field corner N. and S.
	Ditch 48th. wide course N.
4700	Road corner N. and S.
4446	Corner over Shively land
5200	Thence course N. and S.
	Collins house bears S. about
	1600 chas. dist
6100	Top of descent about 15 ft.
	above creek, center rolling
8007	line course N. and S.
	The cor. of sec. 22, 23, 24 and
	27
	land rolling E. mountainous
	soil 32nd and
	1600 chas.
	Mountainous land 745 chas.
	7400
3470	N. 0° 0' W. last. area. 73 and 76
4000	Over rolling land, through
	settling undergrowth
	down 70th. wide course N. and S.
	Set a bear stone 16x10x6 in. 11
	in in the ground for 4 ac. cor

Subdivision of T. 7 S. R. 2 E. continued

chains

marked 1/4 on W. face; dug pits
15x15x12 in on N. and S. of above
3 ft. dirt and raised a mound
of earth 3 1/2 ft. base 1 1/2 ft. high
N. of cor.

41.70

300.00

Road course E and W.
Set a brass stake 14x9x4 in
10 in in the ground for cor. of
area. 14, 15, 16 and 23, marked
with 3 notches on S. and 2
notches on E. edges; dug pits
15x15x12 in in each area. 5 1/2 ft.
dirt. and raised a mound of
earth 4 1/2 ft. base 1 1/2 ft. high
N. of
cor.
Sand molding
Soil 3rd rate
No timber

N 84° 57' E. on a random
line bet. areas. 14 and 23
Set timber 1/4 ac. cor.
Subtract 11 and 5 line 11 and 11.
of cor. of area. 13, 14, 23 and 24

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Subdivision of T. 7 S. R. 2 E. continued

chains

Thence S run
S 84° 56' W. on a true line bet
area 14 and 23
Quern molding found, through
scattering undergrowth
Shore fly Creek 60 ft. wide course
N. 70° E.

57.75

6.35

6.85

9.10

38.90

40.05

Road course N.E. and S.W.
Thence course N.E. and S.W.
Thence course N.E. and S.W.
begin on the wide course N.E.
Set a stake 16x9x6 in 11
in in the ground for 1/4 ac. cor
marked in on N. face; dug pits
15x15x12 in on E. and W. of above
3 ft. dirt and raised a mound
of earth 3 1/2 ft. base 1 1/2 ft. high
N. of cor.

80.10

Shore cor. of area. 14, 15, 23 and 23
Sand molding
Soil 3rd rate
No timber
June 18, at this cor. I set off 23° 26'
on the decl. acc. and at 1 mi. N.

* MCALLISTER'S MODIFICATION OF MORITZ *
* LOSS CALCULATION FOR *
* THE CULLEN DITCH *
* WATER RIGHT NO. *

Q DIVERTED: .93 TYPE OF SOIL: OTHER
Q DELIVERED: .42 SOIL CONSTANT= 2.00 (FEET/DRY)
PERCENTAGE LOSS: 121.9 LENGTH OF HEAD OF DITCH: .57
LENGTH OF DELIVERY SECTION: .98

LOSS TABLE FOR HEAD OF DITCH

MILE	Q	LOSS
1	(CFS)	(CFS)
.57	.73	.20

LOSS TABLE FOR DELIVERY

MILE	Q	LOSS	Q DELIVERED
1	(CFS)	(CFS)	(CFS)
.98	.01	.30	.42

* MCHILLISTER'S MODIFICATION OF MORITZ *
* LOSS CALCULATION FOR *
* THE CULLEN DITCH *
* WATER RIGHT NO. *

Q DIVERTED: .72 TYPE OF SOIL: SANDY LOAM
Q DELIVERED: .42 SOIL CONSTANT= 1.50 (FEET/DRY)
PERCENTAGE LOSS: 83.4 LENGTH OF HEAD OF DITCH: .57
LENGTH OF DELIVERY SECTION: .98

LOSS TABLE FOR HEAD OF DITCH

MILE	1	Q	1	LOSS
	1	(CFS)	1	(CFS)
	.57	1	.63	1 .14

LOSS TABLE FOR DELIVERY

MILE	1	Q	1	LOSS	1	Q DELIVERED
	1	(CFS)	1	(CFS)	1	(CFS)
	.98	1	.00	1 .21	1	.42



State of Idaho
DEPARTMENT OF WATER RESOURCES
WESTERN REGION, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-2190

December 17, 1982

James W. Kiser
5000 Fairview Avenue
Boise, Idaho

Dear Mr. Kiser,

A Certificate of Mailing with the Burghardt's Memorandum states that document was sent to your office on December 15, 1982. I am not sure the enclosed supplemental documents prepared by Carlyle Briggs were also sent.

A copy of the Blacks' Memorandum has been sent to Jeffrey Christenson this date for his possible response. You, of course, have the same opportunity to respond to the Burghardt's Memorandum if you wish.

If you wish to respond with counter arguments to the Burghardt's Memorandum, I request your response be filed by January 5, 1983. If a response is not received or I do not hear from you by that date with respect to a response, I will presume you and your clients have no response.

Copies of the Burghardt claims you requested are enclosed. Please remit \$2.25 for photocopying services.

Thank you for your continued cooperation in this investigation.

Regards,

RD.
Rec'd # 23082

Donald V. Shaff
Adjudication Unit Leader

Enclosures

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9 .10 .20 .30 .40 .50 .60 .70 .75 .80

NE SW, S 26

STATE OF IDAHO AA #090143

DEPARTMENT OF RECLAMATION

at: 4/30 1932 DISCHARGE MEASUREMENT NOTES 5 PM

BLACKS UPPER DITCH River at SHOOLLY CK

Station	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY		Adjusted for hor. angle or	Area	Discharge
							At point	Mean in vertical			
10	EW		0.3								
	15		0.3		50	46					
	20		0.3		100	43					
	25		0.3		40	43					
	30		0.3		60	46					
	35		0.4		20	46					
	38		0.3		15	40					
	43	EW									
										3.307	

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MEASUREMENT FOR SHOOFLY CREEK

MEASUREMENT LOCATION BLACKS UPPER DITCH

LEGAL DESCRIPTION NESW SEC 26 TWP

RNG

MEASURED BY DS

ON 4/30/82

W = 2.218N + .022 FOR N <= 1

W = 2.224N + .016 FOR N > 1

DISTANCE FROM INITIAL POINT	DEPTH	AREA	REVOLUTIONS	TIME	VELOCITY	DISCHARGE
FEET	FEET	SQ FT		SEC	FT/SEC	CFS
1.000	.000	.000	0	46.000	.000	.000
1.500	.300	.225	50	46.000	2.433	.547
2.000	.500	.250	30	43.000	4.154	1.039
2.500	.500	.250	40	43.000	2.085	.521
3.000	.500	.300	60	46.000	2.917	.875
3.500	.400	.160	20	46.000	.986	.158
3.800	.300	.195	15	40.000	.854	.167
4.300	.000	.000	0	.000	.000	.000
TOTALS		1.380				3.307

STATE OF IDAHO
DEPARTMENT OF RECLAMATION

date 4/30, 1982 DISCHARGE MEASUREMENT NOTES

BLACK DITCH @ CORRAL River at SHOOFLY CREEK
FOR WEST FIELD NEW, 32.6, 7.75, 2.25

4 PM
AA
#090143

Stake	Dist. from initial point	Width	Depth	Observation depth	Revolutions	Time in seconds	VELOCITY		Adjusted for hor. angle or	Area	Discharge
							At point	Mean in vertical			
8	4°	EW									
	5°		09		15	42					
	6°		05		25	43					
	7°		04		30	40					
	8°		04		40	42					
	9°		02		10	58					
	92	EW									
										2.769	

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No. _____ of _____ Sheets. Comp. by _____ Chk. by _____

MEASUREMENT FOR SHOOFLY CREEK

MEASUREMENT LOCATION BLACK DITCH @ CORRAL, W/ FIELD LEGAL DESCRIPTION NENW SEC 26 TWP 07S RANG 02E
 MEASURED BY DS ON 4/30/82
 $W = 2.218N + .022$ FOR $N < 1$
 $W = 2.224N + .016$ FOR $N > 1$

DISTANCE FROM INITIAL POINT	DEPTH	AREA	REVOLUTIONS	TIME	VELOCITY	DISCHARGE
FEET	FEET	SQ. FT.		SEC.	FT/SEC.	CFS.
4.000	.000	.000	0	.000	.000	.000
5.000	.400	.600	15	42.000	.814	.488
6.000	.500	.500	25	43.000	1.312	.656
7.000	.400	.400	30	40.000	1.686	.674
8.000	.400	.400	40	42.000	2.134	.854
9.000	.200	.240	10	58.000	.404	.097
9.700	.000	.000	0	.000	.000	.000

TOTALS

2.140

2.769

'WATER RIGHT.'

Notice of Location 16th August, 1883.

To Whom It May Concern, I, Paul Cullen, have this day located the water right known as Shee Fly Creek running from a southeasterly direction to a northwesterly direction, and flowing into Snake River in Owyhee Co., Idaho, for irrigating purposes.

Witness, R. Gilmore Sothern.

Paul Cullen

Recorded in Book 3 of Water Rights, at page 94, among the records of Owyhee Co., Idaho.

STATE OF IDAHO,
COUNTY OF OWYHEE.

I, E. L. Ballard, County Recorder of Owyhee county, State of Idaho, do hereby certify that I have compared the foregoing copy of *Location of a Water Right*

and of the endorsements thereon, with the original records of the same remaining in this office, and that the same are correct transcripts therefrom, and of the whole of said original records.

WITNESS my hand and official seal,
this 31st day of Dec 1898,



E. L. Ballard
County Recorder
By *J. H. K.* Deputy.

Notice of location of a Ranch.

I, the undersigned, a citizen of the United States, do hereby locate and claim one hundred and sixty acres of land, for the purpose of farming and raising stock; this location or ranch is situated in Owyhee County, Territory of Idaho, about half way between Castle Creek and Bruneau River, on Shoo Fly Creek, and bounded and described as follows, to-wit:

Commencing at the northwest corner stake, and running in a southerly direction one mile; thence in a southeasterly direction one quarter of a mile; thence in a northerly direction one mile; thence in a northwesterly direction one quarter of a mile to the starting point, the side and end lines of this location being parallel and forming a square one mile long and one quarter of a mile wide. This ranch is situated on said Shoo Fly Creek, about two miles below the mountains or hills and about two miles above the mouth of said gulch.

Located & notice posted August 17th, 1883.

Paul Cullen, locator.

I, Paul Cullen, being sworn, says the above described claim does not enclose more than one hundred and sixty acres, and that I do not hold any other claim under the provisions of an Act of the Legislature approved December 10th, 1864; that to the best of my knowledge and belief no part of said claim or land is claimed under any existing adverse title.

Paul Cullen

Subscribed and sworn to before me this 18th day of August, 1883.

The above was sworn, subscribed to before me, a Justice of Peace, this 18th day of Aug., 1883.

Wm. C. Schenck,
Justice of Peace, Bruneau Precinct,
Owyhee Co., Idaho.

Filed August 25th, 1883, at one o'clock P. M.

James Lynam, Recorder.

Recorded in Book 3 of Water Rights, at page 96, among the records of
Owyhee Co., Idaho.

STATE OF IDAHO,

COUNTY OF OWYHEE.

I, E. L. Ballard, County Recorder of Owyhee county, State of Idaho,
do hereby certify that I have compared the foregoing copy of *Location of a Creek*

and of the endorsements thereon, with the original records of the same remaining in
this office, and that the same are correct transcripts therefrom, and of the whole of
said original records.

WITNESS my hand and official seal,
this 2nd day of *Sept* 1892,



E. L. Ballard
County Recorder
By *J. H. (Thos.)* Deputy.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

57-1217

SUBJECT: Irrigation Water Needs

DATE: July 28, 1982

TO: Paul Black
Box 273
Grandview, Idaho

The purpose of this letter is to show the amount of water needed to irrigate alfalfa on silt loam and fine sandy loam soils.

Method of irrigation is surface from concrete ditches.

Gross seasonal need for alfalfa from the Soil Conservation Service Irrigation Guide is 34.18". This figure is based on 100% efficiency.

Gross alfalfa needs for summer months are:

June = 6.21"	average consumptive use = .21"/day
July = 8.19"	average consumptive use = .26"/day
August = 6.53"	average consumptive use = .21"/day

When determining irrigation needs the peak month needs to be met.

Recent surface irrigation trials by the Soil Conservation Service on very sandy soils ranged from 10% to 20%. However, with good management 25% to 30% efficiency should be achieved with the soils on this farm.

Based on 27% efficiency surface irrigation for alfalfa, 2 miners inches per acre would be needed.

Marlin Porter

Marlin Porter
Soil Conservation Technician
Mtn. Home, Idaho



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INVENTORY & EVALUATION OF LAND, WATER, AND RELATED RESOURCES

Paul Black
Box 273

REQUESTED BY Grandview, ID 83624 LOCATION Sheeply Creek, Owyhee

ASSISTED BY Larry Wright, SS DATE July 1, 1982

* ☒ INDIVIDUAL ☐ GROUP ☐ UNIT OF GOVERNMENT

SITUATION: Soils information was requested for sec. 13,
T 33 N, R 36 E along Sheeply Creek in Owyhee
county. It was stated that the soils information
was requested by lawyers in order to obtain water.

FINDINGS:

SUGGESTED SOLUTION(S)

The Sheeply Creek area was mapped
in 1980 at an order 3 level. Attached are copies
of the mapping unit identification (ID) legend, a soils
map, a topographic location map, and soil series
descriptions. The soils map and series
descriptions should provide the soils information
requested.

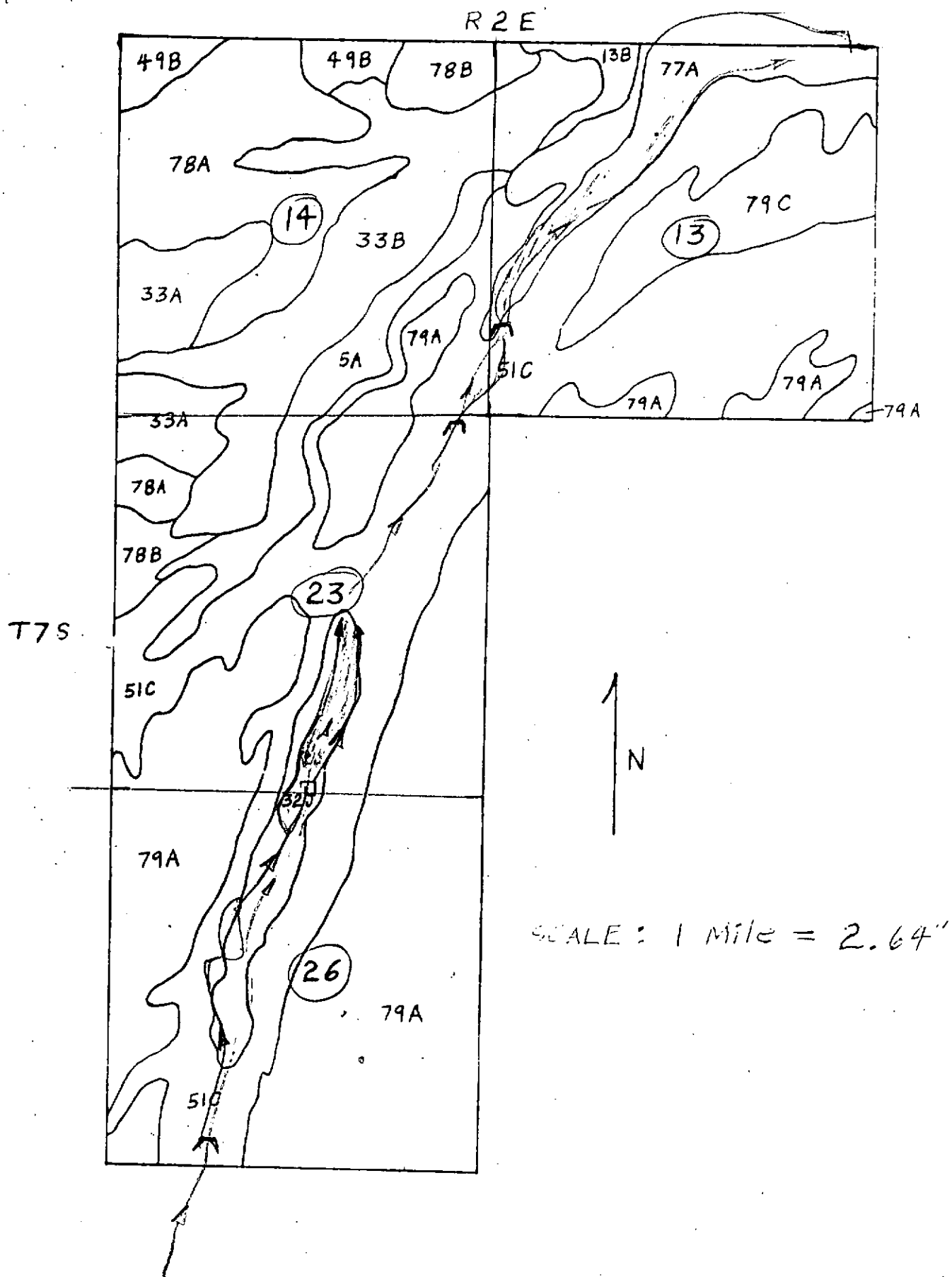
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Soil Symbol Identification Legend

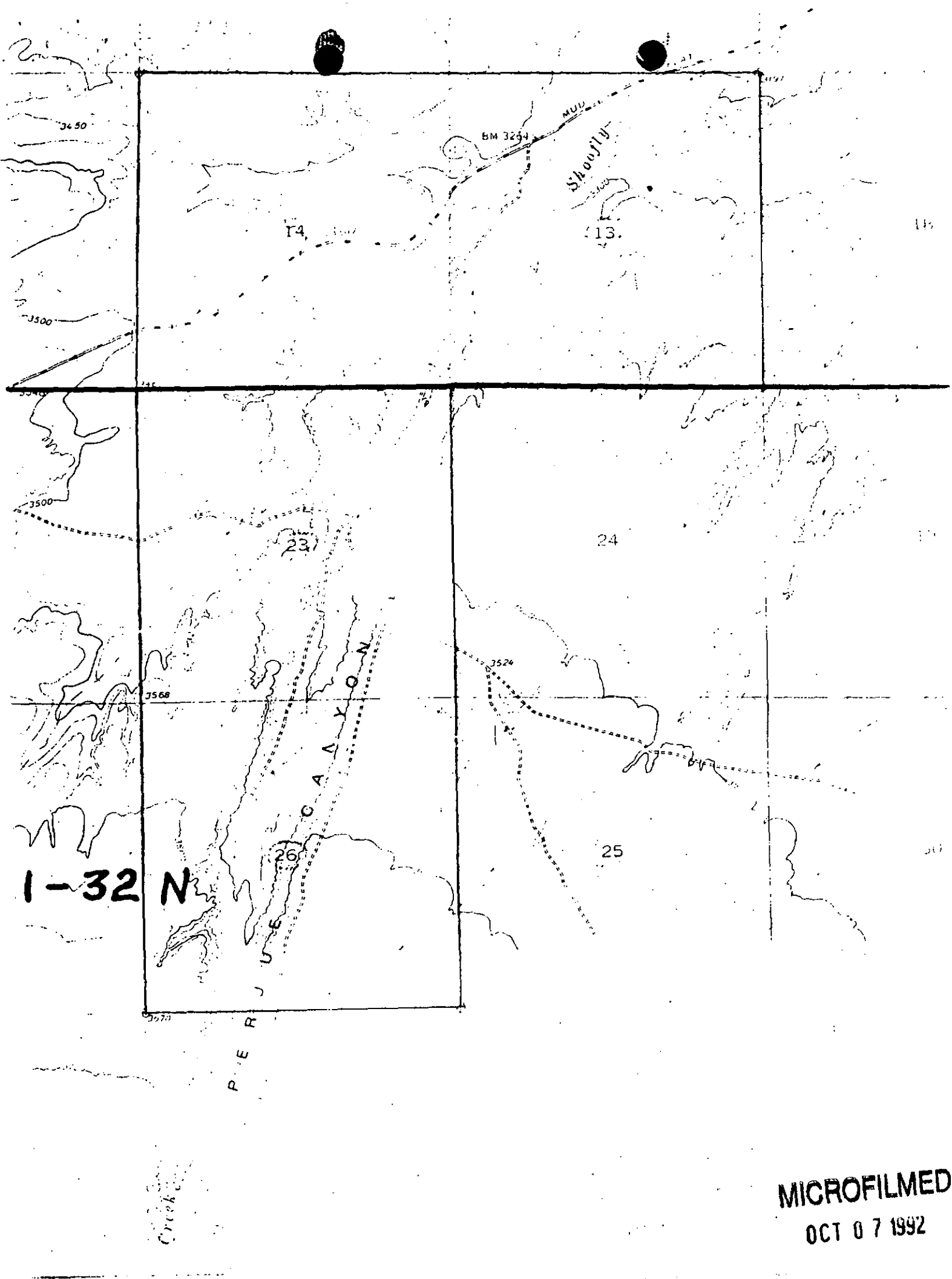
- 5A Aysees gravelly fine sandy loam, 6-12% slope.
- 13B Davey-Mazuma complex, 12-40% slopes
- 32J Mazuma fine sandy loam, 0-4% slope.
- 33A Typic Torriorthents, 4-20% slopes.
- 33B Typic Torriorthents - Rubbleland complex,
20-70% slopes
- 49B Kudlac-Badland undifferentiated, 20-70% slope
- 51C Preaterson-Sharland-Abgese complex, 12-40% slope
- 77A Bylo-Garbutt silt loams, 0-4% slopes
- 78A Abgese loamy sand, 8-40% slopes
- 78B Abgese loamy sand, 2-8% slopes
- 79A Shoofly loam, 0-4% slopes

SOILS MAP



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1-32 N

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ABGESE SERIES NV

The Abgese series is a member of the fine-loamy, mixed, mesic family of Xerollic Haplargids. Typically, Abgese soils have brown gravelly loamy sand and light gray sandy loam A1 horizons, pale brown and light yellowish brown sandy clay loam B2t horizons, and light gray gravelly loamy sand Cca horizons.

Typifying Pedon: Abgese gravelly loamy sand - rangeland
(Colors are for dry soil unless otherwise noted.)

- A11 0-1"---Brown (10YR 5/3) (gravelly) loamy sand, dark brown (10YR 3/3) moist; massive; soft, very friable; few coarse roots; 25 percent gravel; moderately alkaline (pH 8.2); abrupt smooth boundary. (0 to 4 inches thick)
- A12 1-5"---Light gray (10YR 7/2) sandy loam, dark brown (10YR 3/3) moist; weak thin platy structure; slightly hard, very friable, slightly sticky, nonplastic; common fine, medium and coarse roots; common fine and very fine vesicular pores; 10 percent fine gravel; moderately alkaline (pH 8.2); abrupt smooth boundary. (3 to 5 inches thick)
- B21t 5-14"---Pale brown (10YR 6/3) sandy clay loam, dark brown (10YR 4/3) moist; weak fine subangular blocky structure; hard, friable, sticky, plastic; clay films on some peds and pebbles; common fine, medium and coarse roots; common fine interstitial and tubular pores; 10 percent fine gravel; moderately alkaline (pH 8.2); clear wavy boundary. (7 to 12 inches thick)
- B22t 14-20"---Light yellowish brown (10YR 6/4) gravelly sandy clay loam, yellowish brown (10YR 5/4) moist; massive; hard, friable, slightly sticky, slightly plastic; patchy clay films; few fine, medium and coarse roots; common fine interstitial and tubular pores; 15 percent fine and medium gravel; moderately alkaline (pH 8.2); clear wavy boundary. (4 to 8 inches thick)
- IIB3tca 20-35"---Light yellowish brown (10YR 6/4) sandy loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, slightly sticky, slightly plastic; patchy clay films and bridging of sand grains; few fine and medium roots; common fine interstitial and tubular pores; 40 percent fine gravel; violently effervescent; common seams of lime and lime-coated pebbles; moderately alkaline (pH 8.2); clear irregular boundary. (12 to 20 inches thick)
- IIcCa 35-60"---Light gray (10YR 7/2) gravelly loamy sand, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable; few fine and very fine roots; 35 percent fine gravel; violently effervescent; strongly alkaline (pH 8.6).

Type Location: Nye County, Nevada; in an unsurveyed area about 2,500 feet southeast of the northwest corner of sec. 25, T.10N., R.53E., about 2.5 miles northeast of main trail across Sand Spring Wash on the east side of the channel.

Range in Characteristics: The solum is 30 to 40 inches thick. The depth to carbonates is 18 to 24 inches. The mean annual soil temperature is 48 to 51 degrees F. Abgese soils are usually dry but are usually moist in the winter and spring. The A horizon has value of 5, 6, or 7 dry, and chroma of 2 or 3. The argillic horizon has value of 5 or 6 dry. The upper 20 inches of the argillic horizon has average texture of sandy loam or sandy clay loam with 18 to 25 percent clay, more than 35 percent medium and coarse sand, and 20 to 25 percent gravel. The C horizon is gravelly or very gravelly loamy sand or sandy loam with 30 to 60 percent gravel.

Competing Series and their Differentiae: These are the Dixie, Greenbrae, Lankbush, McCain, Morfitt, Paulville, Sevy, Turria, Wenatchee, and Zane series. Dixie soils have weakly to strongly cemented calcic horizons at depths of 10 to 22 inches. Greenbrae, Lankbush, Morfitt and Wenatchee soils are noncalcareous. McCain soils have bedrock within depth of 40 inches. Paulville soils have calcic horizons and have heavy loam, light clay loam, or light silty clay loam argillic horizons. Sevy soils have hue of 7.5YR through 2.5YR in the B2 horizon and have calcic horizons typically within depth of 20 inches. Turria soils have noncalcareous neutral soils with clay loam argillic horizons, lack Cca horizons, and have medium textured C horizons. Zane soils have 7.5YR or 5YR hue and medium textured pedops.

Setting: Abgese soils are on broad, nearly level to moderately sloping alluvial fans at elevations of 6,000 to 6,800 feet. Slopes are 0 to 8 percent. The soils formed in mixed alluvium from volcanic and sedimentary rocks. The climate is cool, semiarid with 8 to 10 inches precipitation and a mean annual temperature of 45 to 46 degrees F. The frost-free season is 100 to 120 days.

Principal Associated Soils: These are the Portmount soils. Portmount soils have coarse-loamy argillic horizons.

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Abgese Series

Drainage and Permeability: Well-drained; medium runoff; moderate permeability.

Use and Vegetation: Livestock grazing and wildlife habitat. Vegetation is mainly big sagebrush, rabbitbrush, Indian ricegrass, and squirreltail grass.

Distribution and Extent: These soils are in high elevation valleys in east-central Nevada. They are inextensive.

Series Established: BLM Duckwater Planning Unit, Nevada, 1974.

National Cooperative Soil Survey
U. S. A.

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AYSEES SERIES

The Aysees series consists of deep, somewhat excessively drained soils that formed in alluvium from a.ze rocks. Aysees soils are on alluvial fans and have slopes of 0 to 42 percent. The mean annual precipitation is about 8 inches and the mean annual air temperature is about 52°F.

Taxonomic Class: Sandy-skeletal, mixed, mesic Typic Calciorthids.

Typical Pedon: Aysees gravelly sandy loam, rangeland. (Colors are for dry soil unless otherwise noted.)

A1--0 to 4 inches; light gray (10YR 7/2) fine gravelly sandy loam, brown (10YR 4/3) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; few fine roots; many fine and medium vesicular pores; 30 percent gravel; strongly effervescent; moderately alkaline (pH 8.3); abrupt smooth boundary. (3 to 6 inches thick)

C1--4 to 15 inches; very pale brown (10YR 7/3) fine sandy loam, brown (10YR 5/3) moist; massive; slightly hard, friable, nonsticky and slightly plastic; many very fine and fine roots; many very fine and fine tubular pores; 2 percent gravel; some of the pebbles have small amounts of lime on lower side; strongly effervescent; strongly alkaline (pH 8.9); clear wavy boundary. (8 to 12 inches thick)

11C2ca--15 to 22 inches; light gray (10YR 7/2) gravelly sandy loam, grayish brown (10YR 4/2) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine roots; very porous; 30 percent lime-coated pebbles; violently effervescent very strongly alkaline (pH 9.1); clear wavy boundary. (6 to 10 inches thick)

11C3--22 to 60 inches; grayish brown (10YR 5/2) very gravelly sand, dark grayish brown (10YR 4/7) moist; single grained; loose; common very fine and fine roots; very porous; 60 percent pebbles with thin lime coats on underside; strongly effervescent; moderately alkaline (pH 8.1).

Type Location: Lincoln County, Nevada; about 2.5 miles west and 0.3 miles south of benchmark 4772; about 790 feet west of center of section 31, T.3S., R.56E.

Range in Characteristics: Depth to the very gravelly 11C horizon ranges from 14 to 26 inches. Mean annual soil temperature is 54° to 59°F. These soils are usually dry most years, mainly during the late spring, summer and autumn. The soils are strongly or violently effervescent. The pH value ranges from 8.0 to 9.4 with the Cca horizon having the highest value. Hue is 10YR or 2.5Y, and chroma is 2 or 3. The upper part of the profile has value of 6 or 7 dry and 4 or 5 moist. The 10- to 40-inch control section stratified but averages dominantly very gravelly sand. The upper 12 to 24 inches of the profile is primarily stratified fine sandy loam or sandy loam and has up to 40 percent gravel. The lower part of the profile is sand or coarse sand with 60 to 80 percent gravel. The calcic horizon consists dominantly of lime-coated pebbles. Some pedons have considerable amounts of segregated lime in the matrix material, and some also have weak cementation.

Competing Series: These are the Eastland, Oljeto, and Tonopah series. Eastland and Tonopah soils have thermic temperature regimes. Oljeto soils have hue of 2.5YR.

Geographic Setting: These soils are on smooth, nearly level and gently sloping alluvial fans at elevations of 4,500 to 5,800 feet. Slopes are 0 to 42 percent. The soils formed in gravelly loamy and very gravelly sandy alluvium mainly from limestone, dolomite, shale, sandstone, quartzite and tuff sources. The climate is arid with a mean annual precipitation of 8 to 9 inches. The average January temperature is about 35°F., average July temperature is 71°F., mean annual temperature is 50° to 55°F., and the average frost-free season is 100 to 130 days.

Geographically Associated Soils: These are the Alpova, Bluewing, Cliffdown, Carbutt and Paniogue soils. Alpova soils have mollic epipedons. Bluewing and Cliffdown soils lack calcic horizons, and Cliffdown soils are not very gravelly in the control section. Carbutt soils have a coarse-silty control section. Paniogue soils have a coarse-loamy over sandy or sandy-skeletal control section.

Drainage and Permeability: Somewhat excessively drained; slow runoff; permeability is moderately rapid in the upper part of the profile and very rapid in the very gravelly substratum.

Use and Vegetation: Used for rangeland. The vegetation is mainly shadscale, bud sagebrush, winterfat and galleta.

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Aysees Series

2

Distribution and Extent: Southeastern Nevada and southern Idaho. The series is moderately extensive.

Series Established: Lincoln County (Pahrnagat and Penoyer Valleys), Nevada, 1974.

National Cooperative Soil Survey
U. S. A.

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1. The first step in the process of creating a new product is to identify a market need. This involves conducting market research to understand what consumers want and what problems they are facing. Once a need is identified, the next step is to develop a concept that addresses this need. This is often done through brainstorming sessions with a team of designers and engineers. The concept is then refined through prototyping and testing, ensuring that it meets the requirements of the market. Finally, the product is launched into the market, and its performance is monitored to ensure it continues to meet the needs of consumers.

[illegible]

BYLO SERIES

The Bylo series consists of deep, well drained soils that formed in alluvium from volcanic and sedimentary rocks. Bylo soils are on basin-fill flood plains and have 0 to 4 percent slopes. The mean annual precipitation is about 9 inches and the mean annual temperature is about 48° F.

Taxonomic Class: Fine-silty, mixed, mesic, Typic Camborthids

Typical Pedon: Bylo silt loam - rangeland. (Colors are for dry soil unless otherwise noted.)

A1--0 to 4 inches; very pale brown (10YR 7/3) silt loam, yellowish brown (10YR 5/4) moist; weak thin platy structure; slightly hard, friable, sticky and plastic; few root crowns; many very fine and fine vesicular pores; strongly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary. (1 to 4 inches thick)

B2--4 to 10 inches; pale brown (10YR 6/3) silty clay loam, yellowish brown (10YR 5/4) moist; weak very fine subangular blocky structure; soft, very friable, sticky and plastic; common very fine and fine roots; common very fine and fine tubular and interstitial pores; strongly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary. (6 to 16 inches thick)

C1ca--10 to 34 inches; pale brown (10YR 6/3) silty clay loam, yellowish brown (10YR 5/4) moist; weak coarse prismatic structure; slightly hard, friable, sticky and plastic; common very fine and fine roots, common very fine and fine tubular and interstitial pores; few lime films along old roots channels and faces of peds; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary. (13 to 34 inches thick)

C2--34 to 60 inches; light yellowish brown (10YR 6/4) silt loam, dark yellowish brown (10YR 4/4) moist; massive; soft, friable, sticky and plastic; few very fine and fine roots; common very fine and fine tubular pores; violently effervescent; moderately alkaline (pH 8.4)

Type Location: White Pine County, Nevada; approximately 1,600 feet south and 1,320 feet west of the northeast corner of sec. 13, T. 15 N., R. 55 E.

Remarks in Characteristics: Thickness of solum and depth to the Cca horizon are 10 to 20 inches. These soils are usually dry, mainly during the summer and autumn. The mean annual soil temperature is 57° to 58° F. and the mean summer soil temperature is 60° to 63° F. The 10- to 40-inch control section is silty clay loam or silt loam and averages 18 to 35 percent clay and less than 15 percent fine sand and coarser. The solum ranges from noneffervescent to slightly or strongly effervescent.

The A1 horizon has value of 6 or 7 dry, 3, 4 or 5 moist, and chroma of 2 through 4. It is massive or has weak or moderate, thin or medium platy structure. This horizon is soft or slightly hard.

The B2 horizon has weak thin platy, coarse prismatic, or weak fine and medium subangular blocky structure, or is massive.

The Cca horizon has few to many, fine distinct soft segregations of lime. It has weak thin platy or fine subangular blocky structure, or is massive. Lenses of gravel are at a depth of below 50 inches in some pedons.

Competing Series: This is the Jesse Camp series. Jesse Camp soils have a moisture regime that borders on aric and have an intermediate content of organic carbon in the epipedon.

Geographic Setting: Bylo soils are on basin-fill flood plains, at elevations of 4,600 to 6,800 feet. Slopes are 0 to 4 percent. The soils formed in mixed alluvium from volcanic and sedimentary rock sources. The climate is cool, continental with an average annual precipitation of 8 to 10 inches. The mean annual temperature is 45° to 52° F.

Geographically Associated Soils: These are the Abzese and Ramshorn soils. Abzese soils have an aridis horizon. Ramshorn soils have a loamy-skeletal particle size control section.

Drainage and Permeability: Well drained; slow runoff; moderately slow permeability.

Use and Vegetation: Used for grazing by livestock. The vegetation is principally winterfat, shrubs and squirreltail with a few miscellaneous forbs.

Distribution and Extent: Bylo soils are in southwestern White Pine County, Nevada and are extensive.

Series Established: BLM Duckwater Planning Unit, Nevada, 1977.

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DAVEY SERIES

NV1

The Davey series is a member of the sandy, mixed, mesic family of Aridisolic Camborthods. They typically have light gray loamy fine sand A1 horizons, light brownish gray fine sandy loam A2 horizons, and light brownish gray fine sand C horizons.

Typifying Pedon: Davey loamy fine sand - rangeland
(Colors are for dry soil unless otherwise noted.)

- A1 0-5"--Light gray (10YR 6/1) loamy fine sand, very dark grayish brown (10YR 4/2) moist; platy structure; soft, very friable; common very fine roots; many very fine interstitial pores; neutral (pH 6.8); abrupt smooth boundary. (4 to 8 inches thick)
- A2 5-14"--Light brownish gray (10YR 6/2) light fine sandy loam, dark grayish brown (10YR 4/2) moist; massive, soft, very friable; common very fine and few fine roots; many very fine interstitial pores; neutral (pH 7.2); clear smooth boundary. (7 to 12 inches thick)
- A3 14-24"--Light brownish gray (10YR 6/2) fine sand, dark grayish brown (10YR 4/2) moist; finely grained; few very fine and fine roots; many very fine and fine interstitial pores; slightly alkaline (pH 7.6); clear smooth boundary. (0 to 12 inches thick)
- C2ca 24-67"--Light brownish gray (2.5Y 6/2) fine sand, dark grayish brown (2.5Y 4/2) moist; finely grained; few very fine and fine roots; many very fine and fine interstitial pores; strongly effervescent; strongly alkaline (pH 8.8).

Type Location: Humboldt County, Nevada, about 3 miles north of Orovala and 2.5 miles northwest of angling road; about 200 feet east and 200 feet south of the north quarter corner of section 14, T.14N., R.10E., S.10E.

Range in Characteristics: The solum is 11 to ²⁵ inches thick. The depth to lime is 11 to 24 inches. These soils are usually dry from May to October and are moist during the late fall, winter and spring. Mean annual soil temperature is 50° to 54° F. The 10- to 40-inch control section averages loamy fine sand, but is borderline loamy fine sand-loamy sand, or loamy fine sand-fine sand in some pedons. It has 5 to 10 percent clay, 5 to 15 percent silt and 80 to 90 percent sand. hue is 10YR or 2.5Y. The A1 horizon has value of 5 to 7 dry, 3 to 5 moist, and chroma of 1, 2 or 3. The A2 horizon has value of 5, 6 or 7 dry, 3, 4 or 5 moist, and chroma of 2, 3 or 4. It is fine sandy loam or sandy loam. This horizon is neutral or mildly alkaline. The C horizon has value of 6 or 7 dry, 4 or 5 moist, and chroma of 2, 3 or 4. It is dominantly fine sand, loamy fine sand, or loamy sand, but strata of light fine sand loam are in some pedons. This horizon is slightly to violently effervescent. Some pedons have up to 10 percent gravel in any horizon. The Cca horizon, weak but discernible, has partial coats of secondary carbonate on rock fragments and coarse mineral grains and in some pedons has few to common fine fibrous gypsum crystals or up to 10 percent weak durinodes below a depth of 20 inches, relict mottles, and in some pedons, very fine sandy loam or silt loam below a depth of 40 inches are in some pedons. Continuous weak or strongly silica cemented horizons are below a depth of 50 inches in some pedons.

Competing Series and their Differentiae: These are the McConnell, Rebel, and Timmerman series. Rebel soils have sandy-skeletal control sections. Rebel soils have coarse-loamy control sections. The Rebel soils have control sections with average texture of loamy coarse sand of dominantly dark colored basalt mineral grains, and typically have Cca horizons that are weakly cemented in some subhorizons.

Setting: Davey soils are on nearly level to moderately sloping alluvial fans at elevations of ^{4,000} to 5,000 feet. Slopes are 0 to 15 percent. The soils formed in moderately coarse and coarse textured alluvium from dominantly tuff, sandstone, gneiss, schist, granodiorite and andesite. The climate is semiarid with a mean annual precipitation of 7 to 10 inches; a mean annual temperature of 47° to 50° F. and a frost-free season of 100 to ¹⁵⁰ days.

Principal Associated Soils: These are the Goldrun and Orovala soils and the competing McConnell and Rebel soils. Goldrun soils lack cambic horizons. Orovala soils have coarse-loamy control sections and large silica horizons of durinodes in a friable matrix.

Drainage and Permeability: somewhat excessively drained. slow to rapid permeability in the solum and rapid permeability in the substratum. cemented substratum may slow or very slow permeability below depths of 40 inches.

Use and Vegetation: Rangeland and irrigated cropland. Small grains, alfalfa hay, and cotton are the principal crops. The vegetation is principally big sagebrush, rabbitbrush, gray sage, shrub ricegrass, squirreltail, Kochia, and sturtead.

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Davey Series

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Distribution and Extent: North-central Nevada. Davey soils are inextensive.

Series Established: Lander County, Northern Part, Nevada, 1974.

Remarks: Davey soils were classified as Alluvial soils. This revision changes the concept from Aric Torriorthents.

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GARBUTT SERIES

The Garbutt series consists of deep, well drained soils that formed in alluvium. Garbutt soils are on alluvial fans, and very low terraces and have slopes of 0 to 12 percent. The mean annual precipitation is about 8 inches and the mean annual air temperature is about 51°F.

Taxonomic Class: Coarse-silty, mixed (calcareous), mesic Typic Torriorthents.

Typical Pedon: Garbutt silt loam - rangeland. (Colors are for dry soil unless otherwise noted.)

A1--0 to 9 inches; light brownish gray (10YR 6/2) silt loam, grayish brown (10YR 5/2) moist; weak and moderate very thin platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine and fine pores; slightly calcareous; moderately alkaline (pH 8.0); clear smooth boundary. (3 to 10 inches thick)

C1--9 to 22 inches; light gray (10YR 7/2) light silt loam, brown (10YR 5/3) moist; weak coarse prismatic structure; soft, very friable, slightly sticky and slightly plastic; many fine and very fine roots; few very fine tubular pores; moderately calcareous; moderately alkaline (pH 8.3); gradual smooth boundary. (10 to 20 inches thick)

C2ca--22 to 40 inches; light gray (10YR 7/2) light silt loam, brown (10YR 5/3) moist; massive; soft, very friable; many fine and very fine roots; common very fine tubular pores; moderately calcareous with few lime spots and veins along roots and channels; few fine chunks of cemented caliche; moderately alkaline (pH 8.4); abrupt smooth boundary. (10 to 25 inches thick)

11C3--40 to 42 inches; light brownish gray (10YR 6/2) fine gravelly loam, dark grayish brown (10YR 4/2) moist; massive; very friable; slightly calcareous; moderately alkaline (pH 8.1); abrupt broken boundary. (0 to 3 inches thick)

11C4--42 to 60 inches; light gray (10YR 7/2) light silt loam, brown (10YR 5/3) moist; massive; very friable; moderately calcareous; moderately alkaline (pH 7.9). (One to several feet thick)

Type Location: Owyhee County, Idaho; about 5 miles southwest of Marsing and east of State Highway 72; alluvial fan with 1 percent slope at 2,500 feet elevation; 1,800 feet west and 1,350 feet north of the southeast corner of sec. 19, T. 2 N., R. 4 W.

Range in Characteristics: The mean annual soil temperature ranges from 47° to 54°F.; and the mean summer soil temperature at a depth of 20 inches ranges from 65° to 72°F. The mineralogy is mixed; but within 40 inches of the surface, 20 to 50 percent of the sand and silt fractions consists of volcanic glass in one or more layers. The 10- to 40-inch section ranges from silt loam to very fine sandy loam, averages 12 to 18 percent clay and less than 15 percent particles coarser than very fine sand, and commonly contains much coarse silt.

The A horizon has hue of 10YR or 2.5Y, value of 5 through 8 dry, 3 through 6 moist and chroma of 2 through 4. It ranges from less than 1 to 2.5 percent organic matter which decreases regularly with increasing depth. The A horizon is commonly slightly or moderately calcareous, but some pedons are noncalcareous in the upper 2 to 10 inches. Reaction ranges from moderately to strongly alkaline.

The Cca horizon has value of 6 through 8 dry, 4 through 6 moist and chroma of 2 through 4. It has a slight or moderate accumulation of lime (ranging from about 3 to 15 percent), and has few or common lime veins or splotches. Most pedons are moderately or mildly alkaline, but some are strongly alkaline.

Competing Series: These are the Penoyer series in the same family and the Genola, Pocatello, and Wheeler series. Genola soils have more than 18 percent clay in the control section. Penoyer, Pocatello, and Wheeler soils have less than 20 percent volcanic glass in the sand and silt fractions. Also, Penoyer soils are dominantly more alkaline, than pH 8.4, are strongly effervescent and lack Cca horizons. Wheeler soils lack Cca horizons.

Geographic Setting: Garbutt soils are on alluvial fans and low terraces. Slopes range from 0 to about 12 percent but are mostly less than 4 percent. Elevations range from 2,000 to 5,400 feet. The soils formed in fairly recent alluvium derived dominantly from lacustrine siltstone of the Payette formation. The climate is arid and has dry summers. Frost-free period is about 110 to 165 days; mean annual precipitation is 6 to 10 inches, including very light snowfall.

Geographically Associated Soils: These are the Baldock, Owyhee, Stanfield, and Turbyfill soils and the competing Bramwell and Umapine soils. Baldock soils have mottles above depth of 20 inches, and have more than 18 percent clay in the control section. Owyhee soils have B horizons and are 20 to 35 inches deep in laminated lacustrine sediments. Stanfield soils have duripans. Turbyfill soils are coarse-loamy.

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Drainage and Permeability: Well-drained; medium or slow runoff; moderate permeability.

Use and Vegetation: Mostly irrigated and used for production of beans, corn, alfalfa, sugar beets, small grains, hay and pasture. Vegetation of nonirrigated areas is bud sage, shadscale, winterfat, big sagebrush, Thurber needlegrass, cheatgrass, squirreltail, wild mustard, bluebunch wheatgrass, and Sandberg bluegrass.

Distribution and Extent: Southwestern and south-central Idaho and eastern Oregon. The soils are moderately extensive.

Series Established: Owyhee County, Idaho, 1973.

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KUDLAC SERIES

The Kudlac series consists of very deep, well-drained soils that formed in residuum and colluvium from lacustrine sediments. They are on dissected terraces and breaks. Permeability is very slow. Slopes range from 4 to 60 percent. The average annual precipitation is about 9 inches, and the average annual temperature is about 50 degrees F.

Taxonomic Class: Fine-silty, mixed, (calcareous), mesic Typic Torriorthents.

Typical Pedon: Kudlac silty clay; on a 15 percent, convex, south facing slope under native rangeland at 3,500 feet elevation. (Colors are for dry soil unless otherwise noted. When described on August 1976 the soil profile was dry.)

A11--0 to 4 inches; light gray (10YR 7/2) silty clay, yellowish brown (10YR 5/4) moist; moderate very fine granular structure; slightly hard, friable, very sticky and very plastic; common fine roots; common fine vesicular pores; slight effervescence (6 percent CaCO₃); moderately alkaline (pH 8.2); abrupt smooth boundary. (2 to 6 inches thick)

A12--4 to 7 inches; light gray (10YR 7/2) clay, pale brown (10YR 6/3) moist; weak fine platy structure; slightly hard, friable, very sticky and very plastic; common very fine, fine and medium roots; common very fine tubular pores; slight effervescence (6 percent CaCO₃); few fine segregated lime filaments; moderately alkaline (pH 8.2); abrupt smooth boundary. (2 to 10 inches thick)

IIC--7 to 11 inches; pale brown (10YR 6/3) loam, brown (10YR 5/3) moist; massive; hard, firm, slightly sticky and slightly plastic; few very fine, fine, and medium roots; few very fine and fine tubular pores; strong effervescence (8 percent CaCO₃); many fine segregated lime filaments; moderately alkaline (pH 8.2); abrupt smooth boundary. (0 to 5 inches thick)

IIIC2--11 to 14 inches; brown (10YR 5/3) sandy loam, dark brown (10YR 4/3) moist; massive; hard, very firm, slightly sticky and slightly plastic;

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KUDLAC SERIES

few very fine, fine, and medium roots; few very fine tubular pores; slight effervescence (5 percent CaCO_3); lime in soft segregated masses; moderately alkaline (pH 8.2); abrupt smooth boundary. (0 to 5 inches thick)

IVC3--14 to 27 inches; brown (10YR 5/3) silty clay loam, dark grayish brown (10YR 4/2) moist; massive; very hard, very firm, sticky and plastic; few very fine, fine and medium roots; few very fine and fine tubular pores; strong effervescence (10 percent CaCO_3); many soft segregated lime masses; moderately alkaline (pH 8.4); abrupt smooth boundary. (10 to 18 inches thick)

IVC4ca--27 to 30 inches; white (10YR 8/2) silty clay loam, pale brown (10YR 6/3) moist; massive; very hard, extremely firm, sticky and plastic; few very fine and fine roots; few very fine and fine tubular pores; violent effervescence (38 percent CaCO_3); strongly alkaline (pH 8.6); abrupt smooth boundary. (0 to 5 inches thick)

IVC5--30 to 43 inches; brown (7.5YR 5/2) silty clay loam, dark brown (7.5YR 4/2) moist; massive; very hard, very firm, sticky and plastic; few very fine and fine roots; few very fine and fine tubular pores; strong effervescence (9 percent CaCO_3); strongly alkaline (pH 8.6); clear smooth boundary. (10 to 20 inches thick)

VC5--43 to 60 inches; grayish brown (2.5Y 5/2) silty clay, grayish brown (2.5Y 5/2) moist; massive; hard, very firm, very sticky and very plastic; few very fine and fine roots; few very fine and fine tubular pores; few lime veins in a noncalcareous matrix; moderately alkaline (pH 8.4).

Type Location: Twin Falls County, Idaho; northeast $\frac{1}{4}$, northeast $\frac{1}{4}$, southeast $\frac{1}{4}$, sec. 18, T. 8 S., R. 13 E.

Range in Characteristics:

Thickness of solum	4 to 12 inches
Depth to hard lacustrine sediments	4 to 20 inches
Depth to bedrock	60 inches or more
Control section averages	
Texture	silt loam or silty clay loam
Clay content	25 to 34 percent
pH	moderately to strongly alkaline
CaCO_3	5 to 40 percent
Mean annual soil temperature	50 degrees to 52 degrees F

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KUDLAC SERIES

A horizon

Color value, dry	6 or 7
value, moist	4 through 6
chroma	2 through 4
Structure	
size	weak or moderate
type	fine or medium
grade	granular or platy

C horizons

Color hue	10YR, 7.5YR or 2.5Y
Color value, dry	5 through 8
value, moist	4 through 6
chroma	2 through 4
Texture	loam, sandy loam, silt loam, silty clay loam, and silty clay

Competing Series: These are the Killpack, Rosney and Swingler series. Killpack soils are moderately deep to shale bedrock. Rosney soils have gypsum crystals, E.C. of 15 to 35 percent and exchangeable sodium percentage of 35 to 80 percent in the control section. Swingler soils average 18 to 25 percent clay in the control section and have an AAST of 53 to 57 degrees F.

Geographic Setting: Kudlac soils are on old dissected terraces and breaks at elevations of ²⁴⁰⁰2,800 to 3,500 feet. Slopes are 4 to 60 percent. The soils formed in lacustrine sediments. The mean annual precipitation is ⁶8 to 9 inches. The mean annual temperature is 49 to ³57 degrees F. The (32 degrees F) frost-free period is 130 to 150 days.

Geographically Associated Soils: These are the Bedke, Paniogue, and Taunton soils. Bedke soils have an argillic horizon. Paniogue soils are 20 to 40 inches to sand or gravel or both. Taunton soils are 20 to 40 inches deep to an indurated duripan.

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KUDLAC SERIES

Drainage and Permeability: Well drained, rapid runoff; very slow permeability.

Use and Vegetation: Kudlac soils are used primarily for rangeland. The native vegetation is bud sagebrush, rabbitbrush, basin big sagebrush, shadscale, bottlebrush squirreltail, Sandberg bluegrass, alkali sacaton, basin wildrye and western wheatgrass.

Distribution and Extent: Kudlac soils are of small extent in south central Idaho.

Series Proposed: Twin Falls County, Idaho 1976. The name is coined.

Remarks: This soil was originally classified as fine-silty mixed (calcareous), mesic Xeric Torriorthents. This description changes the classification of this soil.

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MAZUMA SERIES

The Mazuma series is a member of the coarse-loamy, mixed (calcareous), mesic family of Typic Torriorthents. Typically, Mazuma soils have pale brown and very pale brown stratified loamy profiles that are calcareous and strongly alkaline.

Typifying Pedon: Mazuma sandy loam - rangeland
(Colors are for dry soil unless otherwise noted.)

- A11 0-1.5"--Pale brown (10YR 6/3) sandy loam, brown (10YR 4/3) moist; weak thick platy structure; hard, friable, slightly sticky, slightly plastic; few fine roots; many fine and medium vesicular pores; strongly effervescent; strongly alkaline (pH 8.8); abrupt smooth boundary. (0 to 4 inches thick)
- A12 1.5-8"--Pale brown (10YR 6/3) fine sandy loam, brown (10YR 4/3) moist; weak thin platy structure; slightly hard, friable, slightly sticky, slightly plastic; few fine roots; few very fine and fine tubular pores; slightly effervescent, very few strongly effervescent spots; strongly alkaline (pH 9.0); clear smooth boundary. (4 to 10 inches thick)
- A13 8-12"--Pale brown (10YR 6/3) sandy loam, brown (10YR 4/3) moist; weak coarse subangular blocky structure; slightly hard, very friable, nonsticky, nonplastic; few fine roots; common fine tubular pores; slightly effervescent, thin violently effervescent white (10YR 8/2) line coats on faces of some peds; very strongly alkaline (pH 9.2); clear smooth boundary. (4 to 8 inches thick)
- A14 12-23"--Very pale brown (10YR 7/3) fine sandy loam, brown (10YR 5/3) moist; weak coarse subangular blocky structure; slightly hard, very friable, slightly sticky, slightly plastic; few fine roots; common very fine tubular pores; violently effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary. (8 to 16 inches thick)
- C1 23-30"--Very pale brown (10YR 7/3) stratified fine sandy loam and sandy loam with few pebbles; brown (10YR 5/3) moist; weak coarse and medium subangular blocky structure; slightly hard, very friable, slightly sticky, slightly plastic; few fine roots; few very fine tubular pores; violently effervescent; strongly alkaline (pH 8.8); abrupt smooth boundary. (6 to 12 inches thick)
- 11C4 30-39"--Pale brown (10YR 6/3) gravelly, very coarse sand, brown (10YR 4/3) moist; single grained; loose; few very fine roots; many fine and very fine interstitial pores; slightly effervescent in spots; strongly alkaline (pH 8.8); abrupt smooth boundary. (0 to 10 inches thick)
- 11C5 39-60"--Pale brown (10YR 6/3) micaceous very fine sandy loam, brown (10YR 4/3) moist; weak medium and thin platy structure; slightly hard, very friable, nonsticky, nonplastic; few very fine roots; few fine tubular pores; strongly alkaline (pH 8.6).

Type Location: Pershing County, Nevada; approximately 5 miles northwest of Lovelock, Nevada; 260 feet east and 100 feet north of the SW corner of sec. 9, T.27N., R.31E.

Range in Characteristics: Mazuma soils are usually dry mainly from May to November. The mean annual soil temperature ranges from 50° to 57°F. The hue is 10YR or 2.5Y, value 6 or 7 dry, 4 to 5 moist, and chroma 2 or 3. The profile is dominantly stratified sandy loam to light loam and silt loam. Few thin strata (less than 3 inches thick) of clay loam and up to 10 inches thick of coarse or very coarse sand or loamy sands occur in some pedons. The 10- to 40-inch control section averages fine sandy loam or light loam with 5 to 15 percent clay, 40 to 60 percent sand, and 25 to 50 percent silt. This section has an electrical conductivity of more than 2 mmhos, and 15 to 35 percent exchangeable sodium. Few strata have up to 25 percent gravel. The Cca horizon has less than 3 percent calcium carbonate equivalent. A few fine or medium calcium carbonate concretions may occur in any horizon. Salt crystals and relict mottles occur in some pedons in the lower C horizon. pH ranges from 8.2 to 9.6. Unconformable lacustrine silts or clays occur below 40 inches in some pedons.

Competing Series and their Differentiation: These are the Apron, Fang, Fruitland, Geer, and Worland series. Apron soils have less than 4 percent exchangeable sodium, lack extreme stratification, and have a mean annual soil temperature of 47° to 51°F. Fang soils have 20 percent or more ash, glass and pyroclastic materials, and less than 1 mmho electrical conductivity throughout their control sections. Fruitland soils lack a Cca horizon and stratification in the control section. Geer soils have control sections of dominantly loam and very fine sandy loam with less than 1 mmho electrical conductivity and lack coarse fragments. Worland soils have a paralithic contact at depths of 20 to 40 inches.

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Setting: Mazuma soils are on smooth, nearly level and gently sloping lower portions of alluvial fans at elevations of 4,000 to 6,000 feet. Slope gradients are 0 to 4 percent. The soils formed in loamy alluvium from mixed rock sources including rhyolite, tuff, basalt, granodiorite, and some unconsolidated lake sediments. The climate is cool, continental with a mean annual precipitation of 4 to 7 inches. The average annual temperature ranges from 45° to 50°F. The frost-free season is 100 to 130 days.

Principal Associated Soils: These are the Bango, Bluewing, Toulon, and Unionville soils. Bango soils have a natric horizon. Bluewing and Toulon soils have sandy-skeletal control sections. Unionville soils have a cambic horizon.

Drainage and Permeability: Well-drained; slow or very slow runoff; moderately rapid permeability.

Use and Vegetation: Rangeland. Vegetation is black greasewood and sagebrush in strongly saline-alkali affected areas with shadscale in less affected areas.

Distribution and Extent: Valleys of western and central Nevada. Mazuma soils are of moderate extent.

Series Established: Pershing County (Lovelock Area), Nevada, 1963.

Remarks: Mazuma soils were classified as Alluvial soils.

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PREATORSON SERIES

The Preatorson series is a member of the loamy-skeletal, mixed, basic family of Typic Haplargids. Typically, Preatorson soils have light gray, friable, granular, noncalcareous A horizons, pinkish gray, noncalcareous, very gravelly sandy clay loam B2t horizons having subangular blocky structure, and light brownish gray calcareous very gravelly sand C horizons that have visible secondary calcium carbonate accumulation in the upper part.

Typifying Pedon: Preatorson gravelly sandy clay loam - grassland*
(Colors are for dry soil unless otherwise stated.)

- A1 0-2"--Light gray (10YR 7/2) gravelly fine sandy loam, dark brown (10YR 4/3) moist; weak thin platy parting to moderate medium granular structure; soft, friable; many very fine to medium roots; 30 percent gravel and cobbles; noncalcareous; mildly alkaline (pH 7.8); abrupt smooth boundary. (1 to 4 inches thick)
- B2t 2-11"--Pinkish gray (7.5YR 6/3) very gravelly sandy clay loam, dark brown (7.5YR 4/3) moist; moderate fine subangular blocky structure; hard, friable, slightly sticky, slightly plastic; many very fine to medium roots and pores; 70 percent gravel and cobbles with lime pendants on underside; thin continuous wax-like coating on pebbles and cobbles; noncalcareous; mildly alkaline (pH 7.6); abrupt wavy boundary. (5 to 11 inches thick)
- C1ca 11-18"--Light brownish gray (10YR 6/2) very gravelly sand; grayish brown (10YR 5/2) moist; single grained; soft, loose; few very fine to medium roots; 70 percent gravel and cobbles with thick lime pendants on underside; calcareous; mildly alkaline (pH 7.8); gradual and wavy boundary. (7 to 12 inches thick)
- C2 18-40"--Very gravelly sand; 80 percent gravel and cobbles.

Type Location: Big Horn County, Wyoming; 100 feet south of the Pearce lateral canal in SW1/4NW1/4 of sec. 6, T.51N., R.96W.

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Range in Characteristics: Depth to the very gravelly sand is 10 to 20 inches. Depth to the base of the solum is 10 to 20 inches. Some pedons have a very gravelly sandy loam B1ca horizon. The mean annual soil temperature is 48° to 50°F. The mean summer soil temperature is 62° to 68°F. Weighted average gypsum content is 0 to 5 percent. Exchangeable sodium ranges from 0 to 15 percent. The A horizon has hue of 5Y through 10YR, value of 5 through 7 dry, 4 through 6 moist, and chroma of 2 or 3. It is mildly or moderately alkaline. The B2t horizon has hue of 5Y through 7.5YR, value of 5 through 7 dry, 4 through 6 moist, and chroma of 2 through 4. It has moderate or strong medium or fine subangular blocky structure. It has 30 to 55 percent gravel and 5 to 20 percent cobbles. This horizon has 18 to 35 percent clay, 5 to 30 percent silt, 40 to 75 percent sand with more than 35 percent of the sand fraction being fine sand or coarser. Sand and silt fractions contain about 3 to 10 percent dark, magnetic ferromagnesian rich minerals and basalt fragments. The B2t horizon is mildly or moderately alkaline. The C horizon has hue of 5Y through 10YR. It contains 50 to 75 percent gravel and 5 to 20 percent cobbles. The Cca horizon has less than 15 percent calcium carbonate equivalent.

Competing Series and their Differentiae: These are the Derrick, Garland, and Sharland series. Derrick soils have a frigid temperature regime. Garland and Sharland soils have fine-loamy over sandy or sandy-skeletal control sections.

Setting: Preatorson soils are on nearly level to moderately steep alluvial fans and old pediment slopes or terraces at elevations of 3,500 to 5,200 feet. Slopes range from 0 to about 30 percent. These soils formed in thin, calcareous, sandy, gravelly, and cobbly alluvial materials derived principally from basalt. At the type location the average annual precipitation is 7 inches with peak periods of precipitation in the spring and early summer. Mean annual temperature is 45°F. and mean summer temperature is 69°F. Frost-free season is 110 to 140 days.

Principal Associated Soils: These are the Emblem soils and the competing Garland and Sharland soils. Emblem soils have calcic horizons.

Drainage and Permeability: Soils are somewhat excessively drained to well drained with rapid to rapid over rapid permeability.

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Breatorson Series

Use and Vegetation: Used as rangeland or for irrigated cropland. Native vegetation is mainly
sage, blue grama, needle-and-thread grass.

Distribution and Extent: Big Horn Basin Area, Wyoming. The series is of moderate extent.

Series Established: Big Horn County (Big Horn River Irrigated Area), Wyoming, 1972.

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PLATE 1: 1-1
LML 5-81

RUBBLE LAND

RUBBLE LAND CONSISTS OF AREAS OF STONES AND BOULDERS. RUBBLE LAND IS COMMONLY AT THE BASE OF ROCK OUTCROPS BUT SOME AREAS ARE DEPOSITS OF CORBEL STONES, AND BOULDERS LEFT ON MOUNTAIN SIDES BY GLACIATION OR BY PERIGLACIAL PROCESSES. SLOPES RANGE FROM 15 TO 99 PERCENT.

ESTIMATED SOIL PROPERTIES									
DEPTH (IN.)	SOIL TEXTURE	UNIFIED	AASHTO	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO. 10	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO. 20	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO. 40	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO. 60	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO. 100	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO. 200
0-6	SP	CL	A-1	75-90	10-15	5-10	2-5	1-2	1-2
6-12									
12-18									
18-24									
24-30									
30-36									
36-42									
42-48									
48-54									
54-60									
60-66									
66-72									
72-78									
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OCT 07 1992

SHARLAND SERIES

The Sharland series is a member of the fine-loamy over sandy or sandy-skeletal, mixed, mesic family of Typic Haplargids. Typically, Sharland soils have light olive brown very friable, calcareous A horizons, light olive brown calcareous sandy clay loam B2t horizons having prismatic and subangular blocky structure, and gravelly sandy loam Cca horizons that have continuous subhorizons of visible secondary calcium carbonate accumulation over basaltic sand, gravel, and cobbles at a depth of 16 to 16 inches.

Phyodacitic, quartzitic.

Typifying Pedon: Sharland clay loam - cultivated
(Colors are for dry soil unless otherwise noted.)

- Ap 0-4"--Light olive brown (2.5Y 5/3) light clay loam, olive brown (2.5Y 4/3) moist; weak medium subangular blocky parting to moderate fine granular structure; slightly hard, very friable, slightly sticky, slightly plastic; 15 percent basalt gravel; many dark colored mineral grains in the sand and silt fractions; calcareous; moderately alkaline (pH 8.2); clear smooth boundary. (2 to 6 inches thick)
- B2t 4-9"--Light olive brown (2.5Y 5/4) sandy clay loam, olive brown (2.5Y 4/4) moist; weak fine prismatic parting to moderate fine subangular blocky structure; hard, very friable, slightly sticky, slightly plastic; thin wax-like patches on faces of peds, wax-like coatings in most root channels, and few indistinct wax-like rims around openings of root channels; 15 percent basalt gravel; many dark colored magnetic mineral grains in the sand and silt fractions; calcareous; moderately alkaline (pH 8.4); gradual wavy boundary. (4 to 8 inches thick)
- A3ca 9-12"--Light olive brown (2.5Y 5/4) light sandy clay loam, olive brown (2.5Y 4/4) moist, weak fine subangular blocky structure; hard, friable, slightly sticky, slightly plastic; few thin glossy patches on faces of peds and discontinuous glossy patches in root channels and pores; 20 percent basalt gravel; calcareous; visible secondary carbonate as small, soft concretions; moderately alkaline (pH 8.4); gradual wavy boundary. (0 to 4 inches thick)
- C1ca 12-16"--Light yellowish brown (10YR 6/4) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, nonsticky, nonplastic; 40 percent basalt gravel; many dark colored magnetic mineral grains in the sand and silt fractions; calcareous; visible secondary calcium carbonate occurring as soft concretions, thin seams, streaks, and as coatings on gravel fragments; moderately alkaline (pH 8.4); diffuse wavy boundary. (0 to 10 inches thick)
- C2ca 16-40"--Light yellowish brown (10YR 6/4) very gravelly sand, dark yellowish brown (10YR 4/4) moist; single grained; loose; 60 percent basalt gravel; many dark colored magnetic mineral grains of sand size; calcareous; visible secondary carbonate occurring mostly as coatings on gravel fragments; moderately alkaline (pH 8.4).

Type Location: Park County, Wyoming; approximately 1,600 feet south and 250 feet west of the NE corner of lot 51, T.55N., R.99W.

53 Range in Characteristics: Depth to the base of the argillic horizon is 5 to 14 inches. Depth to sand, gravel, and cobbles is 10 to 20 inches. The mean soil temperature at a depth of 20 inches is 48° to 60°F. The mean summer soil temperature is 62° to 68°F. Depth to continuous subhorizons of visible secondary calcium carbonate and/or sulfate is 5 to 12 inches. Calcium carbonate equivalent in the Cca horizon ranges from 6 to 15 percent. Coarse fragments, mainly basalt gravel and cobbles, range from 10 to 35 percent in the major portion of the solum. The sand and silt fractions contain about 2 to 10 percent dark gray or reddish brown ferromagnesian rich minerals and fragments of basalt. The A horizon has hue of 5Y through 10YR, value of 5 through 7 dry, 4 through 6 moist, and chroma of 2 through 4. It is mildly or moderately alkaline. The B2t horizon has hue of 10YR or 7.5YR, value of 5 through 7 dry, 4 through 6 moist, and chroma of 2 through 6. It has weak or moderate prismatic or subangular blocky structure. This horizon is sandy clay loam, clay loam or loam and has 13 to 35 percent clay, 10 to 50 percent silt, and 20 to 70 percent sand. It is mildly or moderately alkaline. The Cca horizon above the skeletal material has hue of 5Y through 10YR, value of 5 through 7 dry, 4 through 6 moist, and chroma of 2 through 4. It is mildly or moderately alkaline.

~~It is strongly alkaline~~
values are 6 or 7 dry, 4 to 6 moist and the chroma is 2 to 4

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Competing Series and their Differentiae: These are the Ethete, Garland, and Griffy series. Ethete soils have contrasting sand and gravel at depths of 20 to 40 inches and have calcic horizons. Garland soils have contrasting sand and gravel below a depth of 20 inches. Griffy soils have a fine-loamy control section.

Setting: Sharland soils are on nearly level to moderately sloping alluvial fans, pediment surfaces, and old terrace levels at elevations of 3,800 to 5,200 feet. Slopes typically range from 0 to about 10 percent or more. ^{2600' to 2300' - NEOC left in Idaho} These soils formed in thin, calcareous, alluvial materials derived mainly from basalt. At the type location the average annual precipitation is 7 inches with peak periods of precipitation in the spring and early summer months. Mean annual temperature is 45°F. and mean summer temperature is 69°F. Frost-free season is 110 to 140 days.

Principal Associated Soils: These are the competing Garland soils and the Prestorson soils. Prestorson soils have loamy-skeletal argillic horizons.

Drainage and Permeability: Well-drained; slow to medium runoff; moderate over rapid permeability.

Use and Vegetation: Used as rangeland and as irrigated cropland. Principal native plants are pig sage, cactus, blue grama grass, needle-and-thread grass, and snakeweed. ~~creosote, shrub sage, bud sage, 4-winged salt bush, mustard, coyote brush, greasewood.~~

Distribution and Extent: Basin areas of northern and central Wyoming. The series is of moderate extent.

Series Established: Big Horn County (Big Horn Irrigated Area), Wyoming, 1972.

National Cooperative Soil Survey
U. S. A.

36	31	32	33	34	35	36	31
1	6	5	4	3	2	1	6
12	7	8	9	10	11	12	7
13	18	17	16	15	14	13	18
24	19	20	21	22	23	24	19
25	30	29	28	27	26	25	30
36	31	32	33	34	35	36	31
1	6	5	4	3	2	1	6

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SHOOFLY SERIES

The Shoofly series consists of shallow, well-drained soils that formed in alluvium from rhyo-dacitic volcanic rocks. They are on alluvial fans and piedmont slopes and have slopes of 0 to 8 percent. Permeability is slow. The average annual precipitation is about 8 inches and the average annual air temperature is about 50 degrees F.

Taxonomic Class: loamy, mixed, mesic, shallow, Typic Durargids.

Typical Pedon: Shoofly sandy loam - on a 1 percent north-facing slope under rangeland at 3,565 feet elevation. When described on May 20, 1980, the soil was slightly moist above the duripan and dry below. (Colors are for dry soil unless otherwise noted.)

A1--0 to 1 inch; pale brown (10YR 6/3) sandy loam, dark brown (10YR 4/3) moist; weak medium platy structure; slightly hard, very friable; common very fine and fine roots; common very fine and fine vesicular pores; 10 percent pebbles; surface layer is partially covered with varnished desert pavement; abrupt smooth boundary. (0 to 2 inches thick)

A2--1 to 3 inches; pale brown (10YR 6/3) clay loam, dark brown (10YR 4/3) moist; moderate medium and thick platy structure; hard, firm, sticky and plastic; common very fine and fine roots; many very fine and fine vesicular pores; 10 percent pebbles; abrupt smooth boundary. (2 to 5 inches thick)

B2t--3 to 12 inches; light yellowish brown (10YR 6/4) gravelly clay loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; common very fine and fine roots; common thin clay films on ped faces; 20 percent pebbles; abrupt wavy boundary. (5 to 10 inches thick)

C1casim--12 to 15 inches; very pale brown (10YR 7/3) fractured indurated duripan, pale brown (10YR 6/3) moist; extremely hard, extremely firm; continuous silica cemented laminations at the top of the duripan; fractures are about 10 inches apart; 20 percent cemented pebbles; violent effervescence; abrupt wavy boundary. (2 to 8 inches thick)

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SHOOFLY SERIES

C2cas1--15 to 34 inches; light gray (10YR 7/2) intermittent strongly cemented duripan with variegated extremely gravelly coarse sand between duripan layers; few very fine and fine roots; 55 percent pebbles and 10 percent cobbles; violent effervescence; diffuse wavy boundary. (6 to 25 inches thick)

C3cas1--34 to 60 inches; variegated extremely gravelly coarse sand; single grain; loose; few very fine roots; 50 percent gravel and 15 percent cobbles with a few lime and silica pendants on undersides of pebbles; slight effervescence.

Type Location: Owyhee County, Idaho, about 14 miles south of Grandview; 1,300 feet south and 1,015 feet west of the northeast corner of sec. 26, T. 7 S., R. 2 E.

Range in Characteristics:

Thickness of solum and depth to duripan	9 to 14 inches
Mean annual soil temperature	52 to 56 degrees F
Textural control section	25 to 35 percent clay
Reaction in solum	mildly to strongly alkaline
A horizon	
Color value, dry	6 or 7
value, moist	4 or 5
chroma, dry and moist	2 or 3
B2t horizon	
Color hue	7.5YR or 10YR
value, dry	6 or 7
value, moist	4 or 5
chroma, dry and moist	3 or 4
Texture	silty clay loam, or clay loam
Percent clay	35 to 50 percent
Pebbles	5 to 20 percent
C1casim horizon	
Color value, dry	7 or 8
value, moist	5 to 7
chroma, dry and moist	1 to 3
Cementation	indurated
Distance between fractures	5 to 20 inches

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SHOOFLY SERIES

C2cast horizons

Rock fragments
Cementation

Texture

40 to 75 percent
weak to strong in the
upper part of the horizon
very gravelly or extremely
gravelly coarse sand

Competing Series: These are the Cleaver, Silent and Spanel series. Cleaver soils average less than 35 percent clay in the argillic horizon and have duripans greater than 8 inches thick. Silent soils are calcareous throughout the solum, have B2t horizons with less than 35 percent clay, and have prominent B3ca or C1ca horizons above the duripan. Spanel soils have less than 30 percent clay in the argillic horizon.

Geographic Setting: Shoofly soils are on piedmont fans and lower dissected fans at elevations of 2,700 to 3,800 feet. Slopes are 0 to 8 percent. The soils formed in alluvium from rhyolite, latite and dacite. The average annual precipitation is 6 to 9 inches. The average annual air temperature is 49 to 52 degrees F. The frost-free period is 110 to 140 days.

Geographically Associated Soils: These are the Sharland and Unsel soils. Unsel and Sharland soils lack a duripan and have less than 35 percent clay in the argillic horizon.

Drainage and Permeability: Well drained; slow to medium runoff; slow permeability.

Use and Vegetation: Shoofly soils are used for rangeland. The vegetation is shadscale, bud sagebrush, bottlebrush squirreltail, cheatgrass, and Sandberg bluegrass.

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SHOOFLY SERIES

Distribution and Extent: Southwestern Idaho. Shoofly soils are moderately extensive.

Series Proposed: Owyhee County, Idaho, 1980.

Remarks: Named from a creek in the area.

National Cooperative Soil Survey
U. S. A.

7/JL

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33B - Typic Torriorthents - Rubble land
complex, 20 to 70 % slopes

The composition of the unifying unit is about : 50% cent Typic Torriorthents, 15% cent rubble land. The soils in the unit are moderate deep to very deep and are well or somewhat excessively drained. They formed in alluvial and lacustrine deposits derived from mixed sources. These soils are coarse to medium textured with 5 to 50 percent of medium to fine sand, silt, and clay. Pebbles to boulders. Inclusions of rock outcrop, soils similar to Typic Torriorthents that have a medium or moderately fine textured subsoil, ^{and soils that are phreatic to bedrock} are present in some areas.

The surface layer is quite variable and may range from sand to silt loam with up to 50% cent stones and boulders in the Typic Torriorthents. The rubble land consists of areas of stones and boulders with 50 to 100 percent cover on the surface. The underlying material in the Typic Torriorthents is fine sand and silt. It has moderate to strong acid to slightly alkaline reaction. The rubble land is composed of boulders and stones of various sizes and shapes. The rubble land is composed of boulders and stones of various sizes and shapes. The rubble land is composed of boulders and stones of various sizes and shapes.

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so may have bedrock at moderate depth
below the stone and boulder cover.

Available water capacity in the Typic
vriothents is 0.6 to 7.0 inches in the
moderately deep areas and 1.2 to 11.0 inches
in the deep areas. The rubble land available
water capacity is 0 to 6.0 inches. Permeability
of the Typic Vriothents in this unit ranges
from 0.06 to more than 20.0 inches per hour
in the material above the consolidated
sediments or bedrock.

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OCT 6 7 1992

Old (D) Number -

Address

1 - BOX 273

State- ID Zip- 83624

City-Grand View

MATTHE

State- ID Zip- 83624

City- GRAND VIEW

+ - - - Stage - - -
 S - STATUTORY CLAIM
 DECEDED

- - Tributary
SNAKE RIVER

Stream Index (Blank if no Index Code)

272.0 361.0
272.0 361.0

er Use

1.000
0.050

+ + - Use

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07S	02E	23	NW SE	8.0	01	IRRIGATION	(73)	OWYHEE
07S	02E	23	SW SE	11.0	01	IRRIGATION	(73)	OWYHEE
07S	02E	26	NW NE	2.0	01	IRRIGATION	(73)	OWYHEE
07S	02E	26	NE NW	3.0	01	IRRIGATION	(73)	OWYHEE
07S	02E	26	SE NW	10.0	01	IRRIGATION	(73)	OWYHEE

Total Acres: 34.0

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OCT 07 1992

Diversion Means - DITCHES

Non-Irrigation Use - S/100 HEAD RANGE & HORSES

Other Rights for Same Use - 57-1218

Court Report Filing	-	00/00/0000	Field Inspection Made	-	00/00/0000	Civil Case Number	-
Objection Filed Date	-	00/00/0000	Field Inspection Flag	-		Old Case Number	-
Response Filed Date	-	00/00/0000	Verified Date	-	00/00/0000	Old Judicial District	-
Claim Received Date	-	00/00/0000	Last Amended Date	-	00/00/0000	Temporary Right	-
Claims Tape Error Plg	-		Receipt Number	-		Water District	-
Fee Exempt Flag	-		POU Ownership Flag	-		Federal/State Indicator	-
Name Connector	-		Microfilm Roll Number	-		Presumption Flag	-

0CT 07 1992

IN THE DISTRICT COURT OF THE THIRD JUDICIAL DISTRICT
OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF OWYHEE

IN THE MATTER OF THE GENERAL DETER-
MINATION OF RIGHTS TO THE USE OF
Upper Shoofly Creek
DRAINAGE BASIN.

**NOTICE OF CLAIM
TO A
WATER RIGHT**

<u>57-1217</u>	
I.D. No. <u>85-100</u>	Map No. <u>24138</u>
Fee Paid	Receipt No.

Notice is hereby given that Paul and Mattie Black

(Name of Claimant)

Box 273, Grandview, ID 83624

(Mailing Address)

(Zip Code)

Telephone No. 834-2467

claims a right to the diversion and beneficial use of the surface or ground water. The extent and nature of said claim is as follows:

- (1) Date of priority: (When was the water first applied to a beneficial use, or priority date of decreed, licensed or permit right) August 16, 1883 (Paul Cullen, "Notice of Water Right") (attached)
- (2) Describe the source of water: (Name of stream, lake, spring, etc., or ground water) Shoofly Creek
tributary to Snake River
- (3) Describe the purpose for which the water has been used and the time during the year when you have used the right claimed:
- | | | | | |
|---|----------------|-------------------------------------|------------|------------|
| Quantity <u>2.28 cfs. 12</u> Use <u>Irrigation A</u> Period of Use From <u>2/13/15</u> To <u>10/31/15</u> | (CFS, GPD, AF) | (Domestic, irrigation, stock, etc.) | (Mo., Day) | (Mo., Day) |
| (Both dates inclusive) | | | | |
| <u>23 AFA</u> Quantity <u>.05 cfs.</u> Use <u>Stockwater S</u> Period of Use From <u>Yr. around</u> To <u>12/31</u> | (CFS, GPD, AF) | (Domestic, irrigation, stock, etc.) | (Mo., Day) | (Mo., Day) |
| (Both dates inclusive) | | | | |
| Quantity _____ Use _____ Period of Use From _____ To _____ | (CFS, GPD, AF) | (Domestic, irrigation, stock, etc.) | (Mo., Day) | (Mo., Day) |
| (Both dates inclusive) | | | | |
| Quantity _____ Use _____ Period of Use From _____ To _____ | (CFS, GPD, AF) | (Domestic, irrigation, stock, etc.) | (Mo., Day) | (Mo., Day) |
| (Both dates inclusive) | | | | |
- (4) 2.33 cfs. 12 TOTAL QUANTITY CLAIMED.
(CFS, GPD, AF)
- (5) A) Point of Diversion: Give location of point where water is diverted from its source 2 pts. SE 1/4 SW 1/4
Sec. 26, Twp. 7S, Rge. 2E, B.M., Owyhee County
Additional Points: 2 other points NENE, Sec. 26 7S, 2E 1 sec: 2720-3610(2)/15
2 sec: 2720-3610(2)/14
B) Describe means of diversion of water: (Pump and pipeline, well, diversion dam, reservoir, length of ditch and field, etc.). Give sizes and capacities: be as specific as possible. Describe any changes in the system and give the date of the change.
Small rock and earthen diversions and earth ditches

- (6) A) Describe location of use by listing number of irrigated acres within each 40-acre tract in appropriate box. If use is not for irrigation, place an "X" in appropriate box to show location.

T	R	SEC.	NE 1/4				NW 1/4				SW 1/4				SE 1/4				TOTAL
			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	
7S	2E	26																	27 1/2
7S	2E	23																	17 1/2
7S	2E	26		*			*												*15

OTHER RIGHTS: 57-1218

Total no. of acres 24 59 33 36

- B) If water is used for other than irrigation, fully describe that use, being as specific as possible:

Domestic (garden and lawn) stockwater

NOTE: Include here the type and number of stock watered: 3/ Cattle & horses (100 approx.)

- (7) If you are claiming water as a member of an organization, list name of organization:
- (8) Remarks *15 acres located in NWSE, NENE, NWNE Sec. 26 on Plateau above house
was irrigated 1951-1957--stopped due to unavailability of water.
- (9) Basis of claim (Check one) ☒ A) Right based on diversion and beneficial use.
☐ B) Right decreed by court, cite title of case.

- ☐ C) Right based on application, permit, license, or previous statutory claim filed with the Idaho Department of Water Resources. Give No. _____
Department of Water Resources
Western Regional Office

Be it known that the undersigned, after being duly sworn on oath, depose(s) and say(s) that all statements included herein are true and accurate to the best of (his, her, their) knowledge.

Sept 1, 1982
(Date)

Individual Paul & Mattie Black
(Signature of Claimant)
Mattie K. Black
(Signature of Spouse)

State of Idaho Organization _____
County of Ada ss. _____
Seal

(Signature of Authorized Agent)

On this 1st day of Sept, in the year 1982 before me
a notary public, personally appeared Paul J. Black and Mattie K. Black
known to me to be the person(s) whose name(s) are subscribed to the above instrument, and acknowledged to me that (he, she, they, corporation, partnership or _____) executed the same.

My commission expires _____

Notary Public residing at _____

IN THE DISTRICT COURT OF THE THIRD JUDICIAL DISTRICT
OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF OWYHEE

IN THE MATTER OF THE GENERAL DETERMINATION OF RIGHTS TO THE USE OF
Upper Shoofly Creek
DRAINAGE BASIN.

**NOTICE OF CLAIM
TO A
WATER RIGHT**

<u>57-1217</u> I.D. No. <u>\$85.80</u> Fee Paid	Map No. <u>24138</u> Receipt No.
--	--

Notice is hereby given that Paul and Mattie Black

(Name of Claimant)

Box 273, Grandview, ID 83624

(Mailing Address)

Telephone No. 834-2467

(Zip Code)

claims a right to the diversion and beneficial use of the surface or ground water. The extent and nature of said claim is as follows:

- (1) Date of priority: (When was the water first applied to a beneficial use, or priority date of decreed, licensed or permit right) August 16, 1883 (Paul Cullen, "Notice of Water Right") (attached)
- (2) Describe the source of water: (Name of stream, lake, spring, etc., or ground water) Shoofly Creek
tributary to Snake River
- (3) Describe the purpose for which the water has been used and the time during the year when you have used the right claimed:
- | | | | |
|---|--|--|-------------------------------|
| Quantity <u>2.28 cfs.</u>
(CFS, GPD, AF) | Use <u>Irrigation</u>
(Domestic, irrigation, stock, etc.) | Period of Use From <u>2/1</u>
(Mo., Day) | To <u>10/31</u>
(Mo., Day) |
| (Both dates inclusive) | | | |
| Quantity <u>.05 cfs.</u>
(CFS, GPD, AF) | Use <u>Stockwater</u>
(Domestic, irrigation, stock, etc.) | Period of Use From <u>Yr. around</u>
(Mo., Day) | To <u></u>
(Mo., Day) |
| (Both dates inclusive) | | | |
| Quantity <u></u>
(CFS, GPD, AF) | Use <u></u>
(Domestic, irrigation, stock, etc.) | Period of Use From <u></u>
(Mo., Day) | To <u></u>
(Mo., Day) |
| (Both dates inclusive) | | | |
| Quantity <u></u>
(CFS, GPD, AF) | Use <u></u>
(Domestic, irrigation, stock, etc.) | Period of Use From <u></u>
(Mo., Day) | To <u></u>
(Mo., Day) |
| (Both dates inclusive) | | | |
- (4) 2.33 cfs. TOTAL QUANTITY CLAIMED.
(CFS, GPD, AF)
- (5) A) Point of Diversion: Give location of point where water is diverted from its source 2 pts. SE ¼ SW ¼
Sec. 26, Twp. 7S, Rge. 2E, B.M., Owyhee County
Additional Points: 2 other points NENW Sec. 26
- B) Describe means of diversion of water: (Pump and pipeline, well, diversion dam, reservoir, length of ditch and field, etc.). Give sizes and capacities: be as specific as possible. Describe any changes in the system and give the date of the change.
Small rock and earthen diversions and earth ditches
- (6) A) Describe location of use by listing number of irrigated acres within each 40-acre tract in appropriate box. If use is not for irrigation, place an "X" in appropriate box to show location.

T	R	SEC.	NE¼				NW¼				SW¼				SE¼				TOTAL
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	
7S	2E	26		3			12			12									27
7S	2E	28													7	10			17
7S	2E	26		*			*								*				*15

Total no. of acres 59

B) If water is used for other than irrigation, fully describe that use, being as specific as possible:

Domestic (garden and lawn) stockwater

NOTE: Include here the type and number of stock watered: Cattle & horses (100 approx.)

- (7) If you are claiming water as a member of an organization, list name of organization:
- (8) Remarks *15 acres located in NWSE, NENW, NWNE Sec. 26 on Plateau above house
was irrigated 1951-1957--stopped due to unavailability of water
- (9) Basis of claim (Check one) ☒ A) Right based on diversion and beneficial use.
☐ B) Right decreed by court, cite title of case.

☐ C) Right based on application, permit, license, or previous statutory claim filed with the Idaho Department of Water Resources. Give No. _____

Department of Water Resources

Be it known that the undersigned, after being duly sworn on oath, depose(s) and say(s) that all statements included herein are true and accurate to the best of (his, her, their) knowledge.

Individual

Paul & Mattie Black
(Signature of Claimant)

Mattie L. Black
(Signature of Spouse)

Organization

(Signature of Authorized Agent)

State of Idaho

Organization

County of Owyhee

ss.

Seal

On this 1st day of Sept, in the year 1982, before me
a notary public, personally appeared Paul & Mattie Black and Matthew Black, et al
known to me to be the person(s) whose name(s) are subscribed to the above instrument, and acknowledged to me that (he, she, they, corporation,
partnership or _____) executed the same.

My commission expires _____

Notary Public residing at _____