

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

RECEIVED

JUN 13 2003

Department of Water Resources

RECEIVED
JUN 04 2003
IDWR/North

A. GENERAL INFORMATION

Permit No. 85-07651

Phone No. (208) 746-7306

1. Owner: Brian Casteel, Elaine Best

Current Address: 2336 Grelle Ave.
Lewiston, ID 83501

2. Accompanied by: Brian Casteel

EXAM DATE: August 16, 2000

Address: See Above

Phone No. See Above

Relationship to Permit Holder: Co-Permit Holder

3. Source: Groundwater

tributary to:

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 85-16, 85-2065, 85-13250

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

C. DIVERSION AND DELIVERY SYSTEM

1. Point(s) of Diversion:

Ident No.	Gov't Lot	1/4	1/4	1/4	Sec.	Twp.	Rge.	County	Method of Determination/Remarks
NA			SE	SW	13	35N	05W	Nez Perce	USGS 7 1/2 Min. Topographical Map & Plat Map

Note: The Point of Diversion is located in Lot 1, Block 110, Lewiston Orchards Tract No. 12.

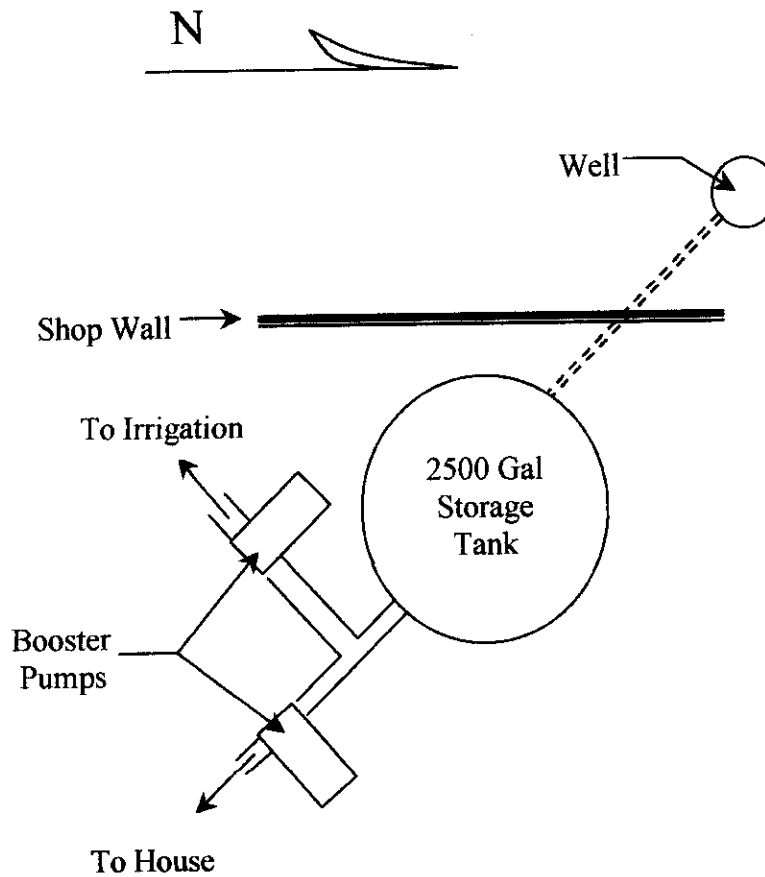
2. Place(s) of Use: Indicate Method of Determination: USGS 7 1/2 Min. Topographical Map & Plat Map

2. Place(s) of Use:			Indicate Method of Determination: USGS 7 1/2 Min. Topographical Map of 15' x 15' Map																Totals
TWP	RGE	SEC	NE				NW				SW				SE				
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
35N	05W	13												4.1					4.1
35N	05W	13												S					
35N	05W	13												D					

Note: The Place of Use is located in Lot 1, Block 110, Lewiston Orchards Tract No. 12.

MICROFILMED
SEP 16 2003

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



Irrigation Area (See next page):

85' x 75'	=	6,375 ft^2
(85' + 55') x 65'	=	9,100
330' x 167'	=	55,110
(330' - 130' - 65') x 63'	=	8,505
65' x 63'	=	4,095
330' x 290'	=	<u>+95,700</u>
Total		178,885 ft^2

$$\frac{178,885 \text{ } ft^2}{43,560 \text{ } ft^2 / \text{acre}} \approx 4.1066 \text{ acres} \approx \mathbf{4.1 \text{ acres}}$$

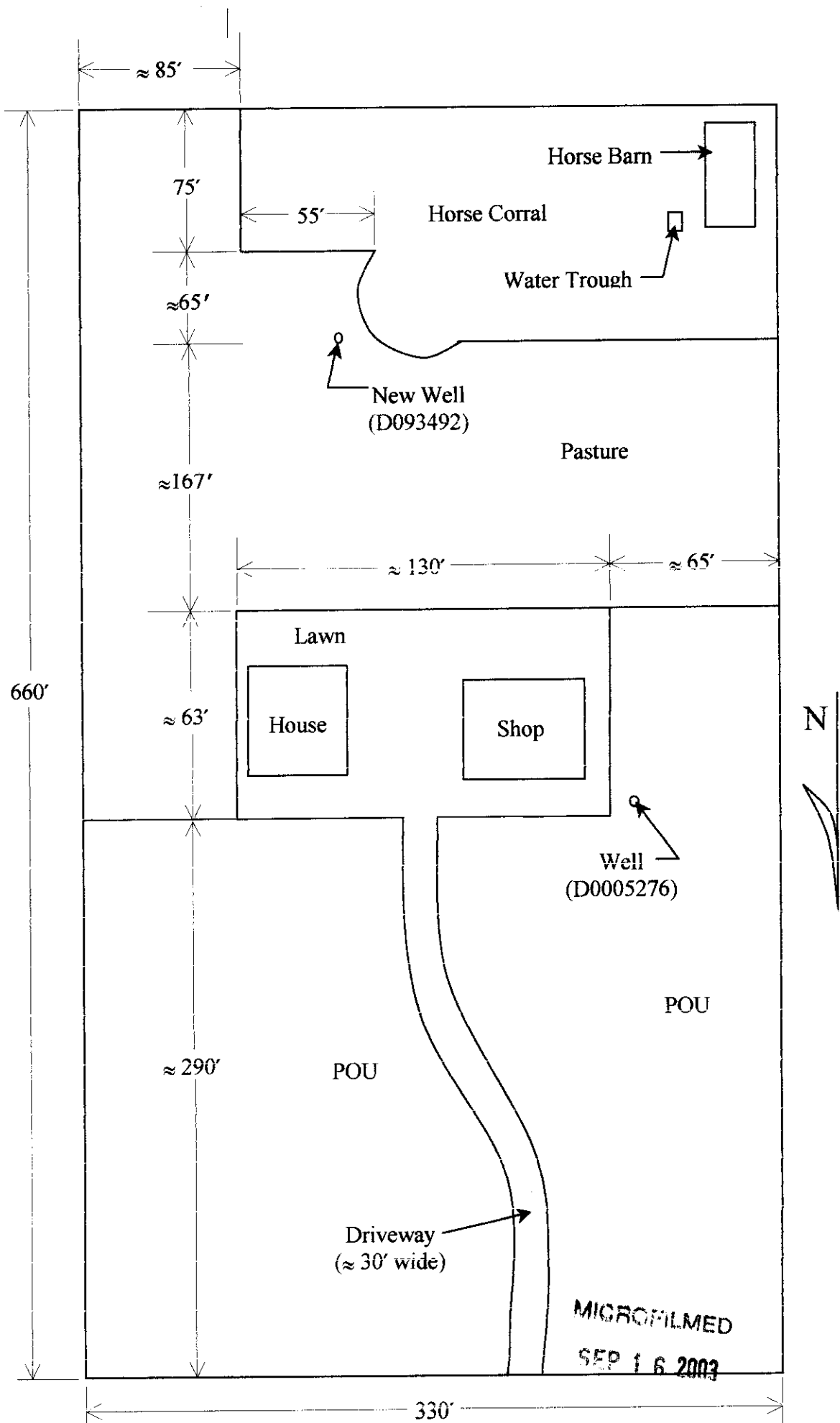
Scale: 1" = Not to Scale.

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

No Aerial Photo Attached (required for irrigation of 10+ acres)

Yes Photo of Diversion and System Attached

MICROFILMED
SEP 16 2003



4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
Submersible in Well		1.5		Gould	
House Booster	AO Smith		8E99	Gould	F9957411
Irrigation Booster	AO Smith		8I98	Gould	L9801443

* Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Bucket					5 Gal.	June 2000
Stopwatch	Wrist	Timex	Ironman			

2. Measurements:

Each Sprinkler (Except for No. 3) consists of a main nozzle and an opposing nozzle. Measurements were taken by filling a five (5) gallon bucket three (3) times then taking the average time of five (5) gallons for each nozzle.

Sprinkler	Nozzle (sec./ 5 gal.)	
	Main	Opposing
1	66	168
2	60	166
3	52	0
4	57	149
5	60	135
Total	295	618

$$\frac{295 \text{ sec.} + 618 \text{ sec.}}{9 \times 5 \text{ gal.}} = 913 \text{ sec./45 gal.}$$

E. NARRATIVE/REMARKS/COMMENTS

The GPS location of the well (*Photo 1*) is N46° 22' 20.0" by W116° 54' 30.1" (GPS unit, Garmin, Model GP-12, serial #36061391). The well (Tag # **D0005276**) is serviced by a one and one-half horse-power (1½ HP) submersible pump and is located about twenty feet (20') from the shop (*Photo 2*), which also serves as a well house.

SEP 16 2003

The line from the well enters the well house and feeds into a 2500 gallon storage tank (*Photo 3*). From there, the system divides into two (2) lines, each having a booster pump and a pressure tank. One line feeds the irrigation system that also supplies the stocktank and the other line supplies the house.

Mr. Casteel (Co-permit holder) stated that the well production was decreasing dramatically over time and that he did not have enough water to irrigate the whole property as he had planned. The decreasing water supply was the reason he had a new well drilled (Tag # **D093492**) which is located a few feet from the horse corral. The new well had recently been completed as of the day of the exam (August 16, 2000) and was not yet connected into any water supply system. The decreasing well production was also the reason for adding the storage tank in the well house. The system was depleted of water within a few minutes after irrigation flow measurements were taken.

Five (5) portable sprinklers (*Photo 4*) are used for irrigation. Mr. Casteel stated that because of the decreasing water supply, only the pasture was currently being irrigated and the area north of the house was not being irrigated.

Two (2) horses were present on the day of the exam.

A search of the IDWR database revealed water right Nos. **85-2065**, **85-16** (both owned by the Bureau of Reclamation), and **85-13250** (Owned by the United States of America on behalf of the Nez Perce Tribe) with the same Place of Use (POU) as this permit.

Water Rights No. **85-16** and **85-2065** are adjudicated claims. A former owner of water right No. **85-16** was the Lewiston Sweetwater Irrigation Co. and the original owner of water right No. **85-2065** is the Lewiston Orchards Irrigation District. On July 16, 2001, I spoke with a representative of the Lewiston Orchards Irrigation District by telephone. She informed me that the Lewiston Orchards Irrigation District is the former Lewiston Sweetwater Irrigation Co. She also stated that water was not deliverable to the SE ¼ of the SW ¼ of Township 35N, Range 05W, Sec. 13, the location of this permit.

Water right No. **85-13250** (Owned by the United States of America on behalf of the Nez Perce Tribe) is also an adjudicated claim and is a reserved water right.

In summary, the recommended changes to this permit that reflect the findings of this exam are as follows:

1. The diversion rate for irrigation should be **0.01cfs** rather than 0.07cfs because of the low well output.
2. The diversion rate for stockwater should be **0.01cfs** rather than 0.02cfs (See Section F. **Flow Calculations**)
3. The total number of irrigated acres is **4.1 acres** and not 5.0 acres (See Section C. **Diversion and Delivery System, Part 3. Delivery System Diagram**)

Have conditions of permit approval been met?

X Yes

MICROFILMED
no SEP 16 2003

F. FLOW CALCULATIONS

Measured Method:

Irrigation:

$$\frac{45 \text{ gal.}}{913 \text{ sec.}} \times \frac{60 \text{ sec.}}{\text{min.}} \times \frac{\text{cfs}}{448.83 \text{ gpm}} \approx 0.0066 \text{ cfs} \approx 0.01 \text{ cfs}$$

Stockwater:

From *Table 3* and *Exhibit 15*, Field Examiners Handbook.

2 Horses = **0.01 cfs**

Domestic:

Single Home (Interior) = **0.04 cfs**

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 4.0 \text{ acres} \times 3.0 \text{ AFA/acre} = 12.0 \text{ AFA}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = 0.01 \text{ cfs} \times 289 \text{ da.} \times 1.9835 \approx 3.5 \text{ AFA}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \mathbf{3.5 \text{ AFA}}$$

2. Volume Calculations for Other Uses:

Stockwater:

From *Table 3* and *Exhibit 15*, Field Examiners Handbook.

2 Horses = **0.1 AFA**

Domestic:

Single Home (Interior) = **0.6 AFA**

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
Domestic (Interior)	1/1	12/31	0.04	0.6
Stockwater	1/1	12/31	0.01	0.1
Irrigation	2/15	11/30	0.01	3.5
Totals:			0.06	4.2

2. Recommended Amendments

Change P.D. as reflected above

Add P.D. as reflected above

X None

Change P.U. as reflected above

Add P.U. as reflected above

Other

18 2003

I. AUTHENTICATION

Field Examiner's Name: Jim Zimmerman

Date: August 15, 2001

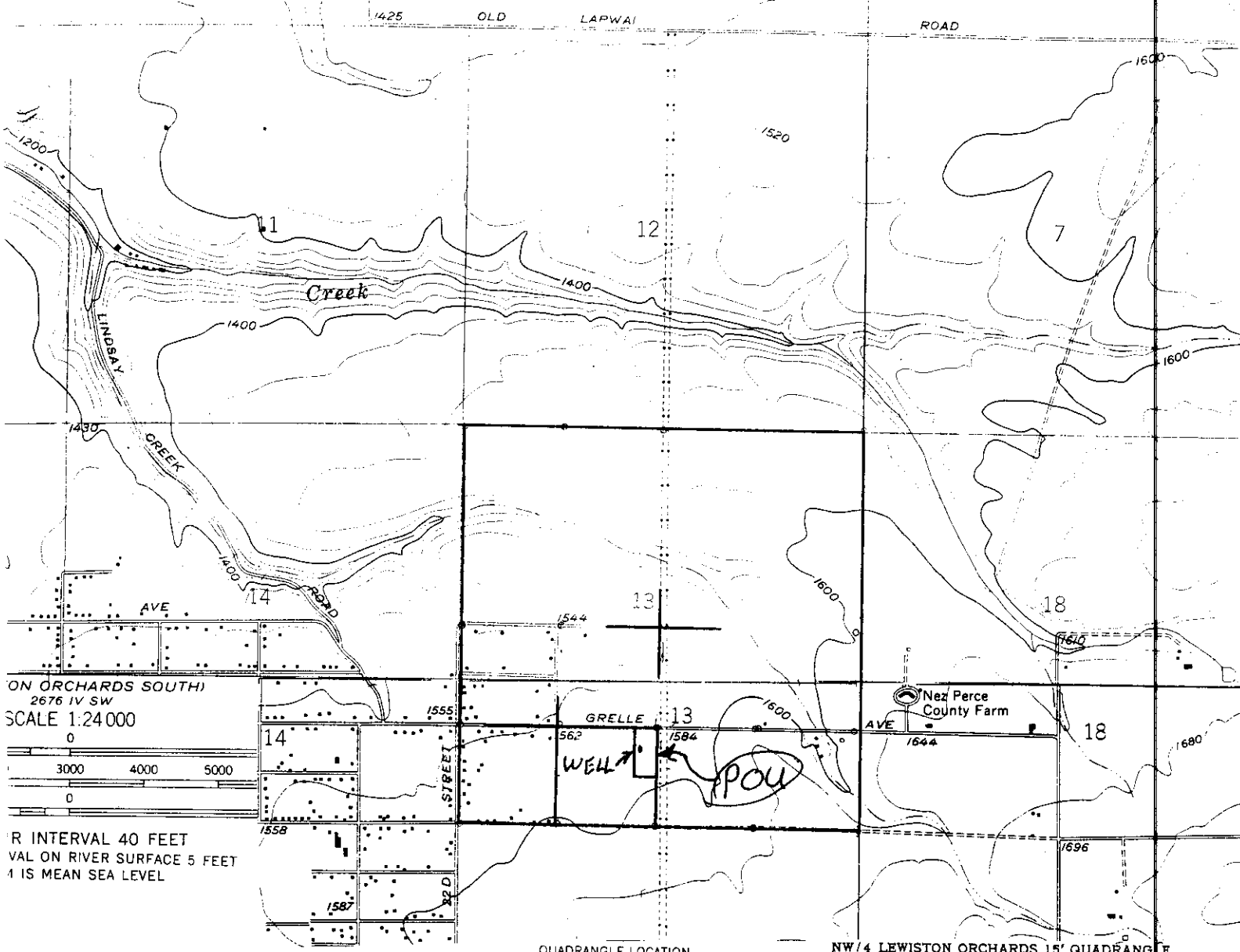
Signature

A handwritten signature in cursive script, reading "Jim Zimmerman". The signature is written in dark ink and is positioned to the right of the word "Signature".

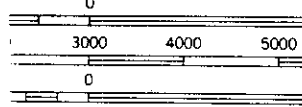
Permit No.: 85-07651

MICROFILMED

SEP 16 2003



ON ORCHARDS SOUTH
2676 IV SW
SCALE 1:24000



VERTICAL INTERVAL 40 FEET
VAL ON RIVER SURFACE 5 FEET
1 IS MEAN SEA LEVEL

1 NATIONAL MAP ACCURACY STANDARDS
DENVER, COLORADO 80225, OR WASHINGTON, D. C. 20242
C MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

NW 1/4 LEWISTON ORCHARDS 15' QUADRANGLE
N4622.5-W11652.5/7.5

1958
PHOTOREVISED 1972
AMS 2676 IV NW-SERIES V893

85-7651

Twp 35N

Rge 5W

Sec 13 SE, SW

MICROFILM

SEP 18 2003

85-7651

0110

NE, SW
SE SW

002

0000

001

WELL
0010

POU

FIRE DIST. F-1

24TH

School Dist #1

Twsp 35N
Rug SW
Sec 13 SE, SW

MICROFILMED
SEP 16 2003

007

008

85-07651



Photo 1. Showing Point of Diversion (POD).



Photo 2. Looking Northwest at Place of Use (POU), Shop, and House.

MICROFILMED

FEB 16 2003

85-07651



Photo 3. Inside of Well house.



Photo 4. Showing typical Irrigation Sprinkler.

05/06/2003