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Page 1
DEPARTMENT OF
WATER RESOURCES

Permit No: 63-11665

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-11647

Exam Date: 9-7-2004

1. Current Owner: HARRIS ORCHARD
PO BOX 23
GREENLEAF ID 83623-0023
(208)466-6008
2. Accompanied by: STEVE HARRIS
Phone No: SAME AS ABOVE
Address: SAME AS ABOVE
Relationship to Permit Holder: CO-OWNER

3. SOURCE

TRIBUTARY

GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: WILDER IRRIGATION DISTRICT, 63-28069
2. Other water rights with the same point of diversion: NONE

C. DIVERSION AND DELIVERY SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:

GROUND WATER SE1/4SW1/4
CANYON County

Sec. 28, Twp 04N, Rge 04W, B.M.

Method of Determination: VISUAL INSPECTION AND GIS MAPS

2.

PLACE OF USE: IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
04N	04W	28	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	46
											38.7		7.3						

Total Acres: 46

Method of Determination: VISUAL INSPECTION AND GIS MAPS

3. YES Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
- YES Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
- YES Aerial Photo Attached (required for irrigation of 10+ acres).
- YES Photo of Diversion and System Attached

4.
4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
WELL	BERKLEY	25	MODEL 7T-450	BERKLEY	MODEL 7T-450

*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
N/A						

2. Measurements:

The pump was not operational at the time of the exam. It was not feasible to require the owner to reconnect the pump up to power to allow for a measurement.

E. FLOW CALCULATIONSYES Additional Computation Sheets Attached

Measured Method:

Theoretical calculation → 0.92 cfs
 Pump Curve (with correction for TDH) → 0.93 cfs
 Permit allows → 0.92 cfs

PLEASE NOTE: This permit is limited by the Permit or 0.92 cfs

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 46 \text{ ac} \times 4.5 \text{ ir} = 207 \text{ afa}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.92 \text{ cfs} \times 260 \text{ days} \times 1.9835 = 474.5 \text{ afa}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 207 \text{ afa}$$

2. Volume Calculations for Other Uses

NONE

G. NARRATIVE/REMARKS/COMMENTS

The water for this permit is diverted from the well by a 25Hp pump into a mainline that travels northeast for approximately 30 feet to a cement ditch. Once the water enters the ditch it travels west over a Cipolletti weir. The water can then continue on west through a cement ditch to irrigate the south field. The water can also be diverted due south through a buried mainline. The buried mainline travel approximately 1/8 of a mile to a bubbler where a relift pump to a sprinkler system that irrigates the middle field can divert the water. The water can continue in the mainline south to a gated pipe system used to irrigate the north field and around the home.

The only overlapping rights are the owner's domestic and commercial water right and Wilder Irrigation District water rights. This water right is supplemental to the Wilder Irrigation District water, so there shouldn't be any problem with overlapping water rights.

This is a supplemental water right, so it should be conditioned as such. This is an open discharge system and can easily be measured and reported using power records.

Have conditions of permit approval been met? ☒ Yes ☐ No

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	03/15 to 11/15	0.920 CFS	207 AF
	<u>Totals:</u>	0.920 CFS	207 AF

2. Recommended Amendments

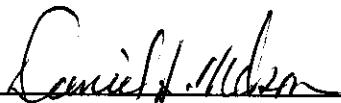
☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☐ None

☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

I. AUTHENTICATION

DANIEL A. NELSON – SENIOR AGENT

Field Examiner's Name



Date

11-02-04

Reviewer

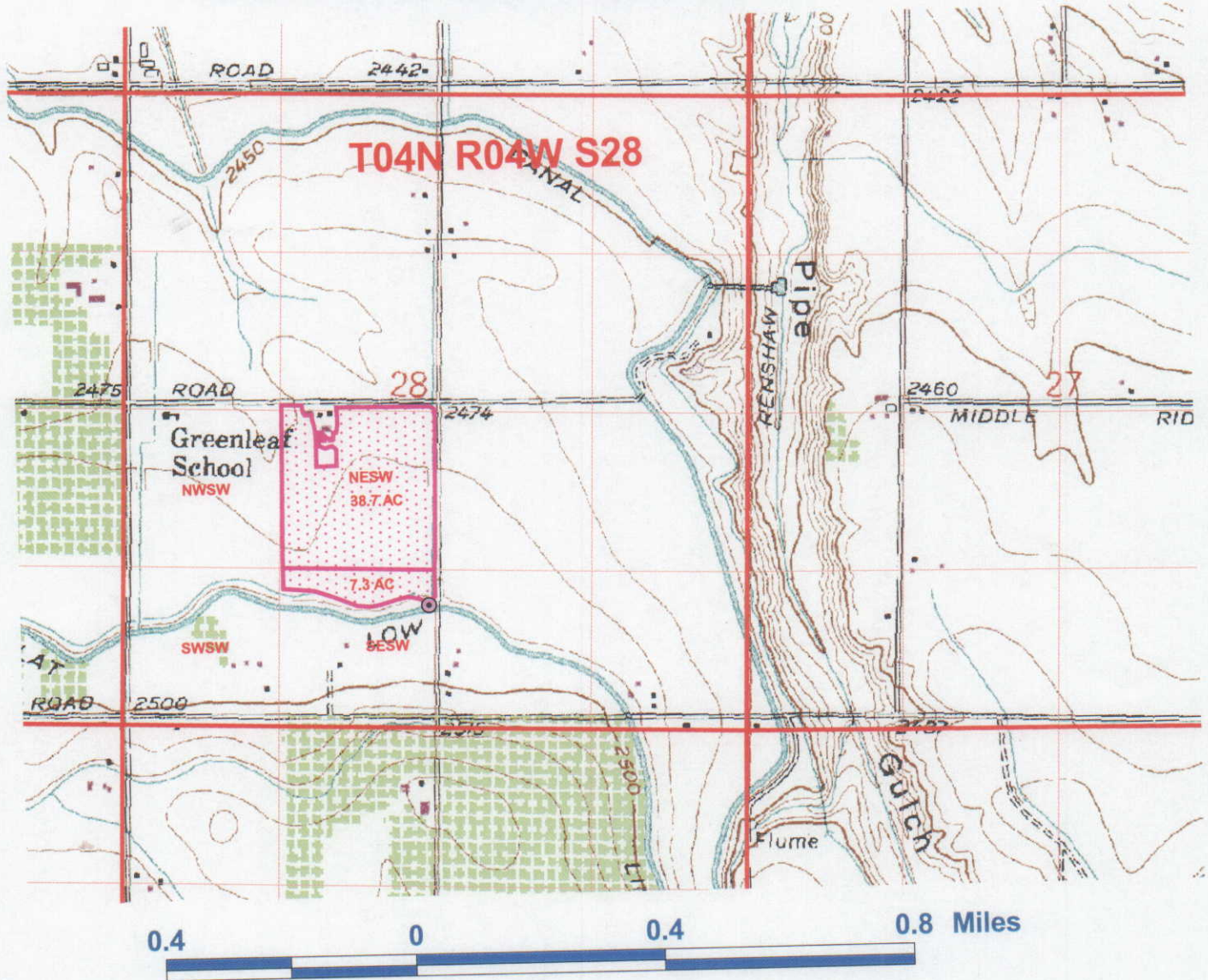
Date

SEAL

FIELD EXAM 63-11647

QUADRANGLE MAP

BY DANIEL NELSON

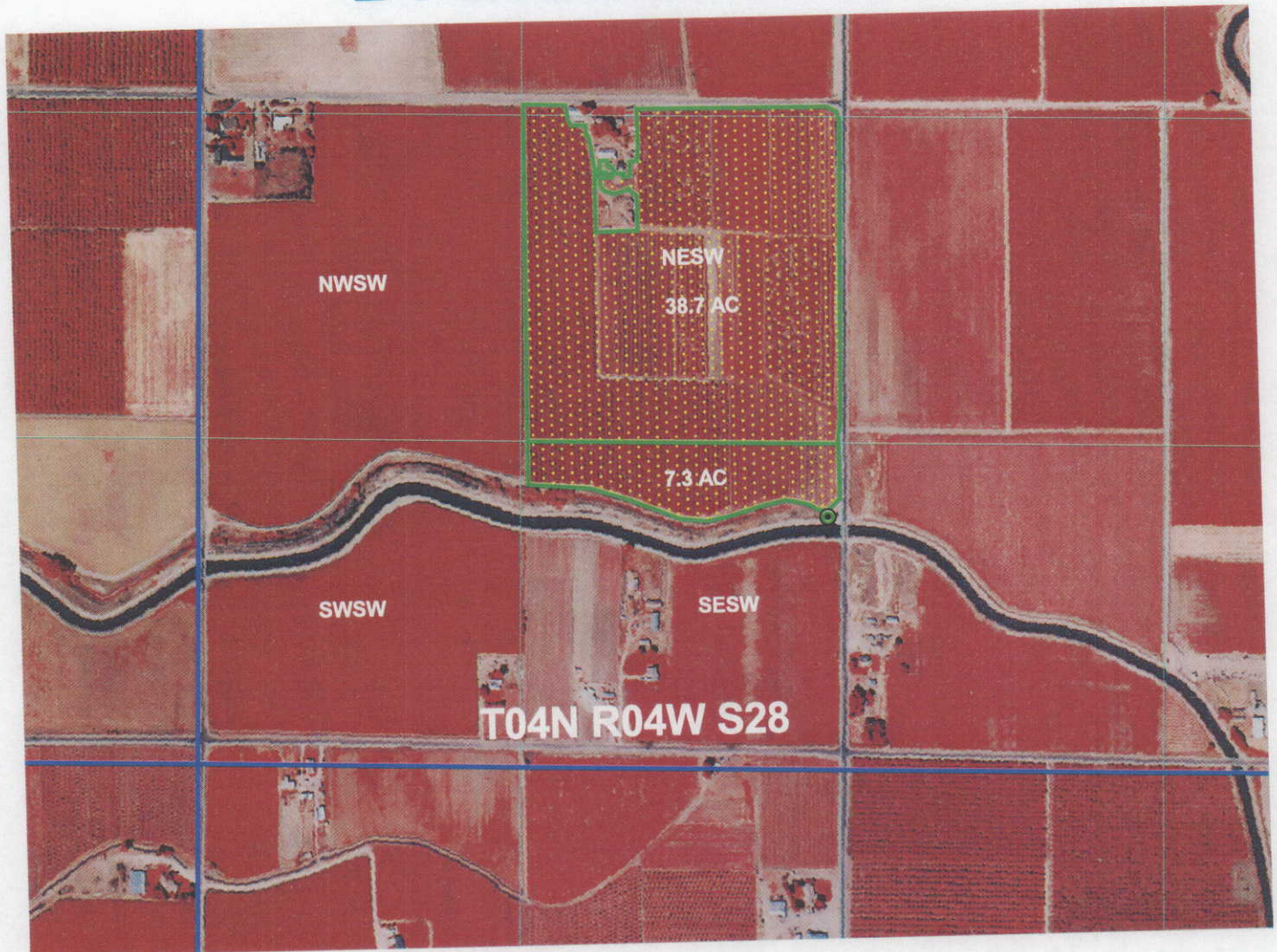


- Well
- Irrigate Lands
- Section Lines
- 1/4 1/4 Lines



FIELD EXAM 63-11647

PLACE OF USE 46 ACRES IRRIGATED BY DANIEL NELSON



- Well
- Irrigate Lands
- Section Lines
- 1/4 1/4 Lines



FIELD EXAM 63-11647

SYSTEM DIAGRAM

DANIEL A. NELSON

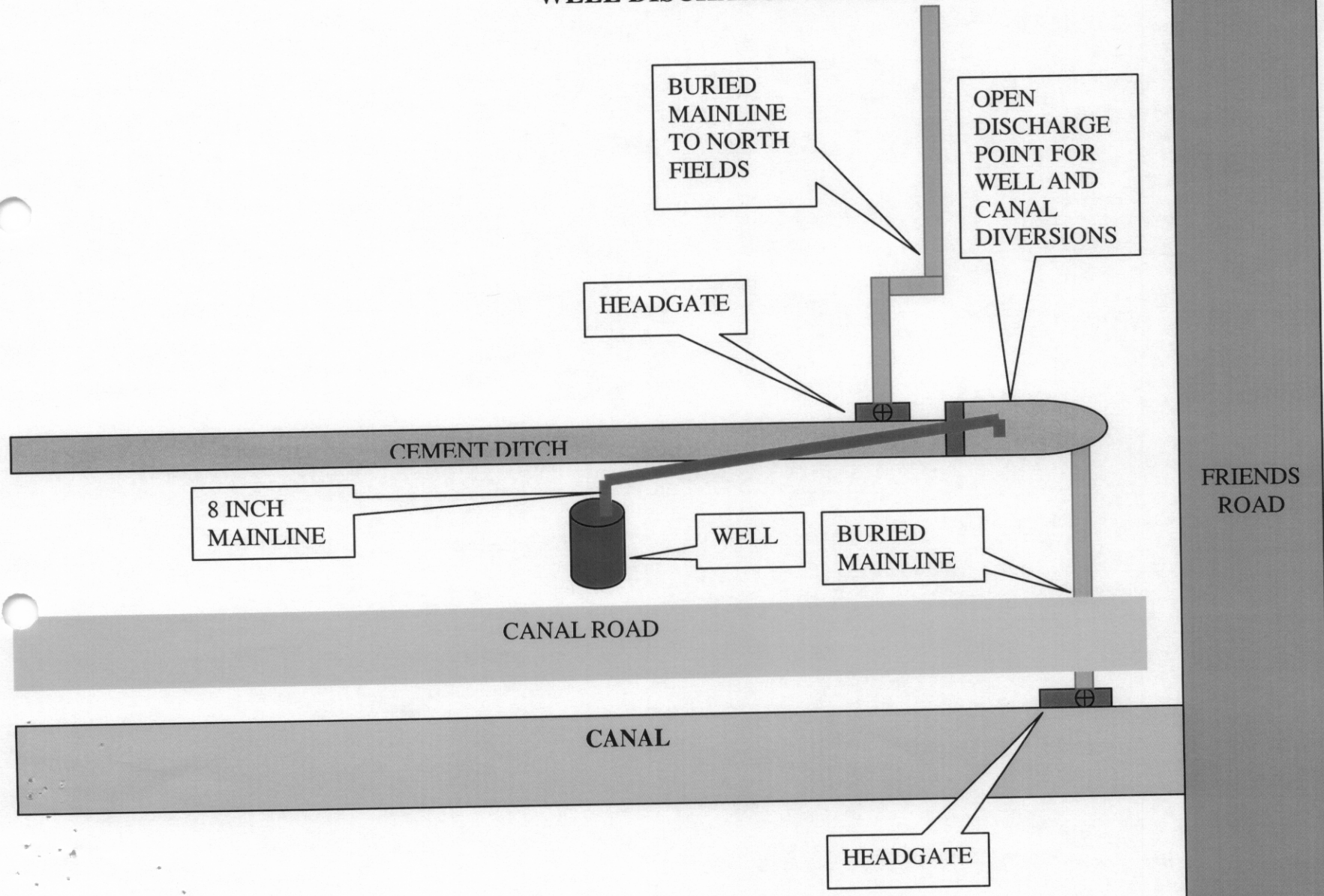


- Bubbler
- Gated Pipe
- Mainline
- Cement Ditch
- Well
- Irrigate Lands
- Section Lines
- 1/4 1/4 Lines

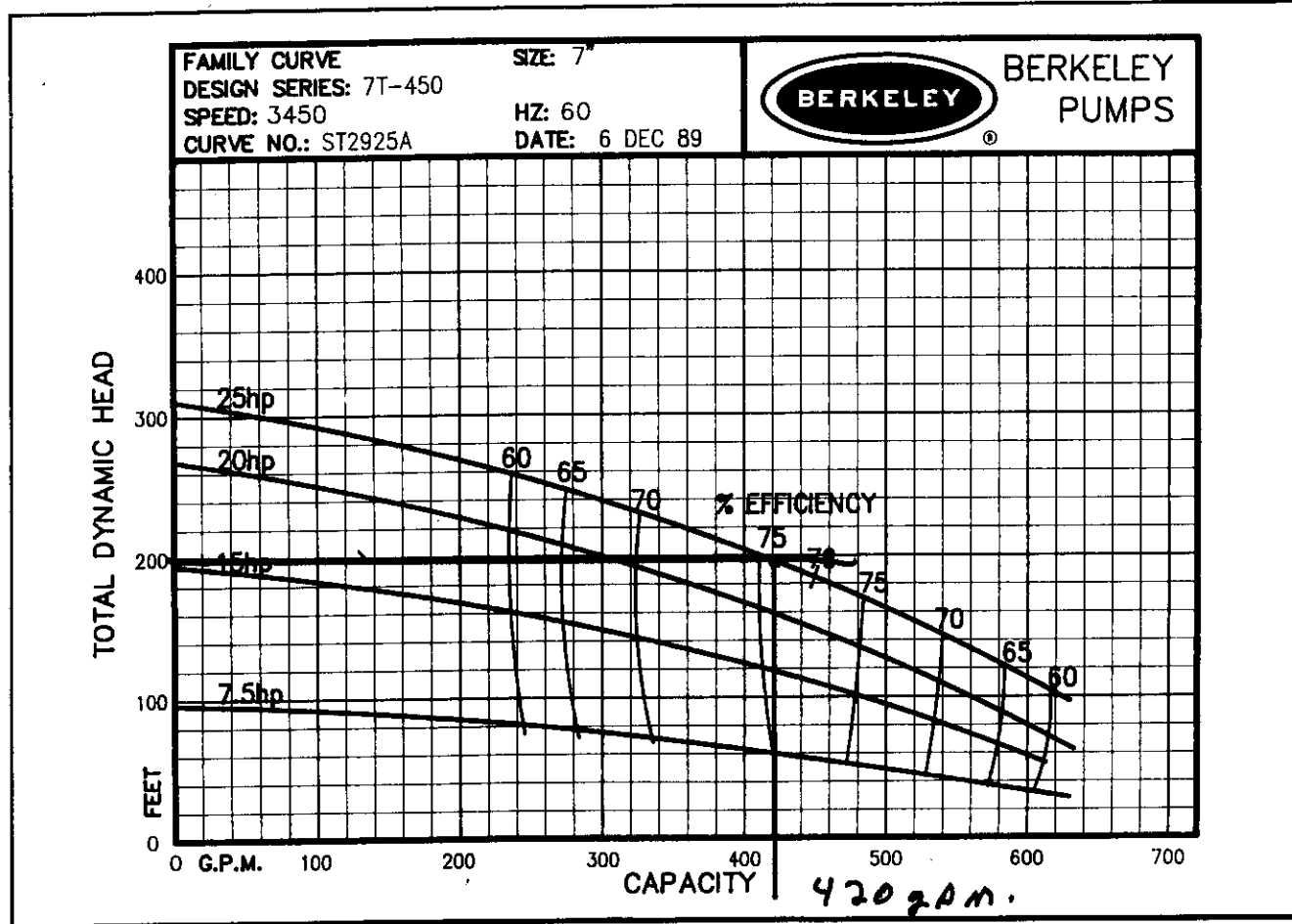
Water is diverted into an existing cement ditch used to deliver water from the canal which comes onto the property from under the canal road. Once the water is diverted into the cement ditch, it travels westerly to furrow irrigate the south field. Approximately 5 ft downstream from the discharge point is a headgate that sends the water through an underground mainline to a bubbler approximately midway through the property. The water in the bubbler can be pumped into a mainline traveling west to supply sprinkler lines, or it can continue on south to a gated pipe that irrigates the northern field.



WELL DISCHARGE DIAGRAM



Submersible Turbine Model 7T-450



Specifications

LIQUID END WEIGHTS

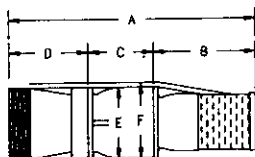
DESCRIPTION	WEIGHT LBS.	HP RATING	MOTOR FLANGE
ONE STAGE L.E.	59.3	7.5-25	6"
ONE STAGE L.E.			
ONE STAGE L.E.			
EACH ADDED STAGE	25.5	ALL	ALL

IMPELLER DATA

TYPE: ENCLOSED EYE AREA 8.19 Sq. In.
 THRUST CONSTANT K 2.47 Lbs./Ft of HEAD.

HP	IMPELLER No.	STAGES	IMPELLER Dia.
25	M01996	3	5.38" @ 20" (4.69")
20	M08289	3	5.19" @ 36" (4.13")
15	M08288	2	5.38" @ 34" (4.31")
7.5	M08288	1	5.38" @ 34" (4.31")

OUTLINE DIMENSIONS



- A- ONE STAGE LIQUID END LENGTH
- B- SUCTION CONNECTION LENGTH
- C- STAGE LENGTH
- D- DISCHARGE CONNECTION LENGTH
- E- BOWL DIAMETER
- F- DIAMETER ACROSS LEAD GUARD

BOWL DATA

BOWL No. 106688 PUMP SHAFT Dia. 1"
 TYPE: THREADED DISCHARGE SIZE 6"NPT(MALE)

5"NPT(FEMALE)

NOTE: For each additional stage add 'C'

A	B	C	D	E	F	HP RATING	MOTOR FLANGE
19.94	10.94	6.50	2.50	6.50	6.94	7.5-25	6"

REVISED 12-05-89

AB0514

GROUNDWATER THEORETICAL ANNALYSIS

FILE: 63-11647

DATE: 10-5-04

BY: Daniel A. Nelson

THEORETICAL RATE OF FLOW: $Q = \frac{(8.8 \times (HP) \times (EFF.))}{TDH}$

Q = CFS

HP = Total Brake Horsepower of pumping plant (including booster)

Eff. = Pumping plant efficiency (Used 75% OR 0.75 PER PUMP CURVE AND PUMP SIZE)

TDH = Total dynamic head = [(LIFT) + (PSI X 2.31)]

LIFT = Depth to water in FEET from land surface to pumping water level

PSI = Pumping pressure measured in PSI near pump (if open discharge assume [0])

$$Q = \frac{(8.8) \times (\underline{25}) \times (0.75)}{[(\underline{175}) + (\underline{2}) \times 2.31]} = \frac{165}{179.62} = \underline{0.92 \text{ CFS}}$$

412 gpm

<u>LIFT FROM:</u>	<u>PSI FROM:</u>	<u>NOTES ON PUMP:</u>
Measurement ()	Measurement ()	Motor Make, Serial or ID
Owner ()	Owner ()	
Area estimate ()	Estimate (X)	Pump Make, Serial or ID, rating
Well Logs (X)	Owner Gage ()	
Booster (Y) (N)		

REMARKS: LIFT was calculated by subtracting static water level from total well depth and dividing by 2 (385-3510 = 175FT. The system is an open discharge system. The pressure on an open discharge system can range between 0-10psi. I chose 2 psi, because this pressure most resembled the pump curve data.

<u>Pump curve shows</u>	<u>420gpm - 0.94CFS</u>
<u>Theoretical shows</u>	<u>412gpm - 0.92CFS</u>
<u>Permit allows</u>	<u>412gpm - 0.92CFS</u>
<u>0.02CFSacke allows</u>	<u>412gpm - 0.92CFS</u>

Use ~ 412 gpm or 0.92 CFS

Motor-Pump-System Efficiency Values

Horsepower	System Efficiency		Motor Eff*	Pump Efficiency	
	Good	Maximum		Good	Maximum
3	54	60	82.5	66	73
5	56	62	84	67	74
7.5	56	62	82.5	68	75
10	59	65	85.5	69	76
15	60	66	85.5	70	77
30	63	69	88.5	71	78
40	66	72	91	72	79
60	66	73	91	73	80
75	69	75	92	75	82

*Motor Efficiency from MotorMaster software
<http://www.energy.wsu.edu/>

Values used for estimating flows =IF(F16="", "", IF(F16>=75,0.82,IF(F16>=40,0.79,IF(F16>=15,0.77,IF(F16>=7.5,0.73,0.7)))

Horsepower	Pump Efficiency
<7.5	73
7.5 - 10	76
15 - 30	77
40 - 60	79
>75	82

Spreadsheet drafted by S.King, IDWR, 1/3/2000
 For the purpose of estimating pumping rates for wells.

IDAHO DEPARTMENT OF WATER RESOURCES

WELL INSPECTION FORM

1. DRILLING PERMIT NO: 63-92-W-397 OTHER APPLICABLE NO: 63-11647
2. OWNER: HARRIS ORCHARD Phone: 466-6008
Address: P.O. BOX 23, GREENLEAF, ID 83623-0023
3. WELL LOCATION: Twp 4N, Rge. NW, Sec. 28, SE 1/4 SW 1/4
County Canyon (Provide sketch map and photo on reverse.)
4. DRILLER: Pete Cope DRILLING Lic. No. 213
When Drilled? 6-8-92 - 6-11-92
5. WELL CONSTRUCTION:
Casing Diameter 16 inches Water tight cap? ☐ Yes ☒ No Access Port: ☒ Yes ☐ No
Casing $\geq$ 12 inches above ground? ☒ Yes ☐ No - Describe _____
Depth of Casing UNKNOWN ft. Method Drilled UNKNOWN
Condition of Well Casing: ☐ Good ☒ Fair ☐ Poor Describe ELECTRICAL CONDUIT BROKEN OFF OF WELL CASING.
Control Valve? ☒ Yes ☐ No Pressure Gauge: ☐ Yes ☒ No
Condition of Piping and Valving FAIR.
Auger to a depth of 0 ft. Evidence of Annular Seal ☐ Yes ☒ No
Are there obvious construction problems that may be a source for contamination or waste of water?
☒ Yes ☐ No (Describe in Remarks and Attach Photo - On Reverse)
6. HYDROLOGIC INFORMATION:
Depth to Static Water UNKNOWN ft. Water Temperature UNKNOWN °F
Flowing Artesian ☐ Yes ☒ No Pressure: UNKNOWN (psi)
Water Sample Taken? ☐ Yes ☒ No If yes, describe purpose _____
Water Quality Measurements/Observations (Describe) _____
7. WELL USE:
☐ Domestic ☒ Irrigation ☐ Stock
☐ Test ☐ Municipal ☐ Industrial
☐ Abandoned ☐ Waste Disposal/Injection ☐ Not Used
☐ Other: _____

8. POSSIBLE CONTAMINATION SOURCES:

Is there evidence of Chemigation? ☐ Yes ☒ No

If yes, is there a check-valve present? ☐ Yes ☒ No

Is there a possible source of contamination nearby? ☐ Yes ☒ No

If yes, what Type? _____

How far away from the well is this source? _____

9. REMARKS: The power conduit on the top of
the well casing had broken off. This
allowed a 1 1/2" to 2" opening in the well's
top plate. I told the well owner to
plug the hole.

Daniel A. Nelson Senior agent
Signature of Dept. Representative & Title

9-7-2004
Inspection Date

PHOTOS, DRAWINGS, OTHER ATTACHMENTS:

see Field Exam

PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 9/7/2004

FILE NUMBER 63-11647



← This is a photo of the well. The discharge pipe has been removed and shut off valve put onto the well. The discharge pipe was 8-inch pipe and the shut off valve was a 4-inch pipe.



← This is the piping where the well would open discharge if it were still connected to the discharge pipe. The pipe discharges into the ditch upstream on the Cipolletti weir in the ditch.



← This photo shows the power line to the well has been disconnected. It looks as though this well hasn't been used in several years.

PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 9/7/2004

FILE NUMBER 63-11647



The water from the well open discharges into the main ditch. Water from the canal enters this ditch from under the road. The water can then be diverted due west through a cement ditch or sent due north to a bubbler and pump system. Overflow at the bubbler goes into a gated pipeline to irrigate the northern most field.