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DEPARTMENT OF WATER RESOURCES

[illegible]

PLACE OF USE: IRRIGATION FROM STORAGE

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
11N	02W	1						.1	32.0	3.2	16.0	16.0		7.7		1.7	2.6		79.3
							L 4												
11N	02W	2	2.8	1.5	8.0	34.0									1.0				47.3
			L 1	L 2															

Total Acres: 126.6

DIVERSION TO STORAGE same as IRRIGATION FROM STORAGEMethod of Determination: Aerial photos

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.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
RELIFT PUMP	GENERAL ELECTRIC	60 Hp	GJ6284016	CORNELL	17686
POINT OF DIVERSION	NONE	NONE	NONE	NONE	OPEN DITCH DIVERSION

*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
PYGMY METER	N/A	N/A	N/A	090194	PYGMY	UNKNOWN

2. Measurements: Measurements of the reservoir were acquired from the dam safety files. Measurement of the diversion to storage was done by Gene Gibson on 3/13/1990. Please see his measurement sheet. The previous agent did do a sprinkler measurement for the re-lift pump. He measured 50 psi average on 6 lines with 33 sprinklers per line. The average flow per nozzle was 6.01 gpm. 6.01 gpm X 33 heads X 6 lines = 2.65 cfs. A theoretical was also done on the pump (60Hp X 8.8 X.8) / [10 +(2.31 X 50)] = 3.36 cfs. Therefore, the irrigation system capacity would be 2.58 cfs.

E. FLOW CALCULATIONS**YES** Additional Computation Sheets Attached

Measured Method:

Diversion to storage measured at 0.899 cfs rounded to 0.90 cfs. See attached measurement sheet.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

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

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

2. Volume Calculations for Other Uses:

PLEASE SEE ATTACHED DAM SAFETY SHEET FOR RESERVOIR CAPACITY. THE IRRIGATION FROM STORAGE IS LIMITED BY VOLUME OF THE RESERVOIR.

G. NARRATIVE/REMARKS/COMMENTS**DAN NELSON'S NARRATIVE:**

Quentin Nesbitt performed the exam for this right in 1988. The exam has been held for several years and hasn't been completed. I have reviewed this exam and finalized the field report. Kelly Christensen also reviewed this exam and made some corrections to the original field report. The original field report was corrected and changed, therefore, I re-wrote the field report to make it more understandable. I have included the original field report in the file for reference.

My review this field exam showed that Mr. Nesbitt was correct in allowing 0.90 cfs for diversion to storage and 90 afa as permitted. However, I am concerned about the point of diversion. It is very close to the ¼ ¼ line, and could be in either the NESW or NWSE. I am fairly confident that it is actually in the NESW. The season of use is limited to the permit, so the owner would need to file another permit for an extended season of use.

With new mapping technology and rounding procedures I disagreed with the land being irrigated. Mr. Nesbitt's exam in 1988 and found 129 acres, and Kelley Christensen re-examined this permit in 1990 and found 120 acres. The ASCS map included with the file showed 125.9 acres when the ½ acre yard was included. When I calculated the acres using ArcView I discovered 126.6 acres. Whereas the determination of actual irrigated acres was so close, I data entered the acres I found, since this is the shape file that will be entered into the database. Please see enclosed maps.

Water rights 67-2365 and 67-7281 directly overlap the place of use, and 67-7281 overlap the same reservoir. Both of these rights come from springs, so this right is for a completely separate source of water. Therefore, this permit can be licensed for the same acres and storage components.

Quentin did measure the diversion to storage from the outflow of the reservoir. Gene Gibbison went back to the site latter and measured the flow of the diversion to storage. Therefore, the diversion to storage should be limited to Mr. Gibbison's measurement of 0.90 cfs.

I have included Quentin Nesbitt's narrative from the original field exam for reference.

QUENTIN NESBITT NARRATIVE:

System consists of diversion structure in an unnamed stream with a ditch which diverts water to 90 acre-foot reservoir during runoff periods. Irrigation is done from the reservoir with a 60 Hp centrifugal pump and wheeling system.

This permit is for the same reservoir as 67-7281 and is used for the same land as 67-2365 and 67-7281.

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>
DIVERSION TO STORAGE	12/01 to 05/01	0.900 CFS	
IRRIGATION STORAGE	01/01 to 12/31		90.00 AF
IRRIGATION FROM STORAGE	04/01 to 10/31		90.00 AF
<u>Totals:</u>		0.900 CFS	90.00 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 Daniel A. Nelson Date 8-5-05

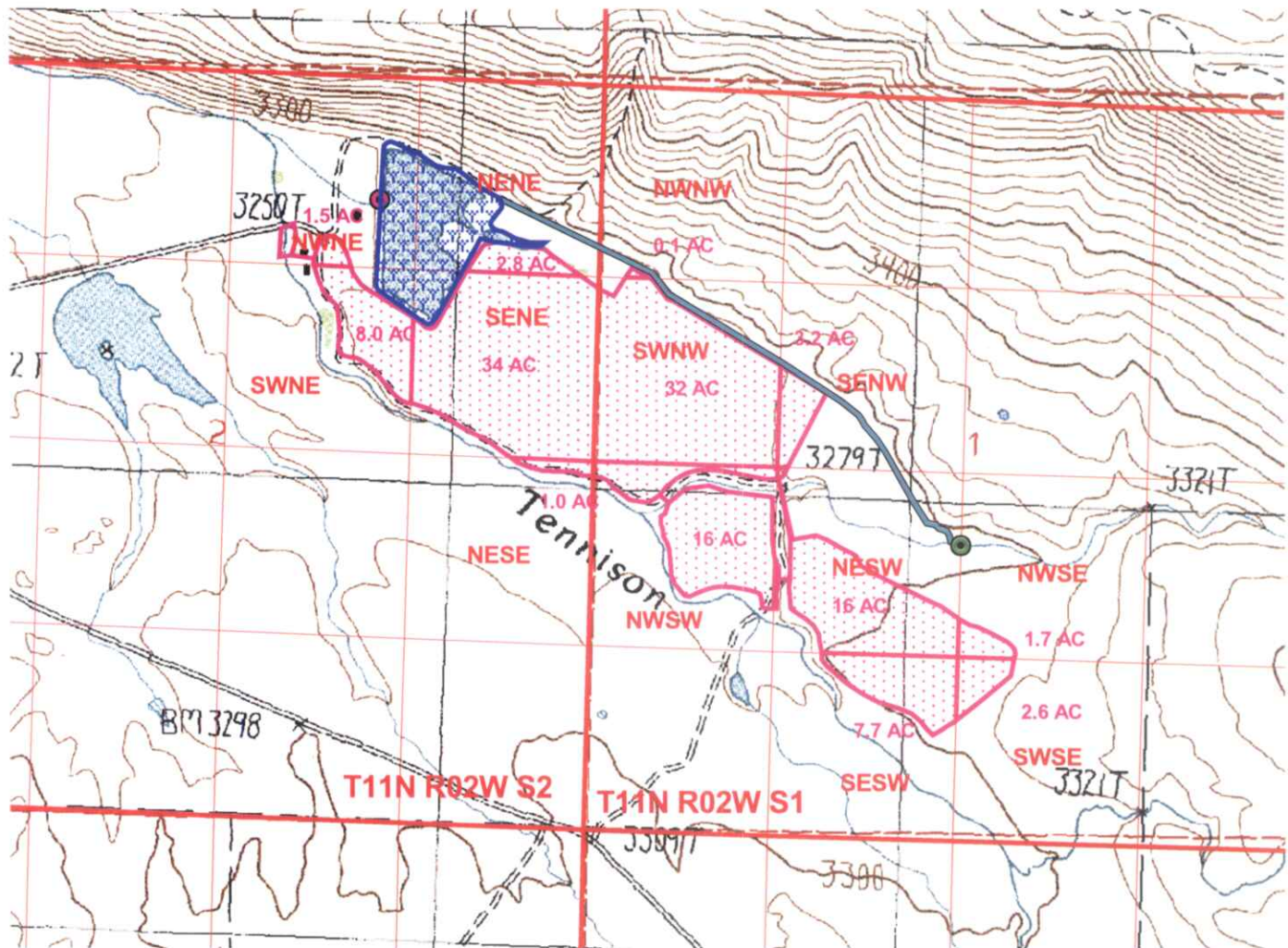
Reviewer _____ Date _____

SEAL

FIELD EXAM 67-7292

QUADRANGLE MAP

BY DAN NELSON



0.4 0 0.4 0.8 Miles

 RESERVOIR

 POINT OF DIVERSION

 RESERVOIR SUPPLY DITCH

 RELIFT PUMP

 PLACE OF USE

 SECTION LINES

 1/4 1/4 LINES

PLEASE NOTE:

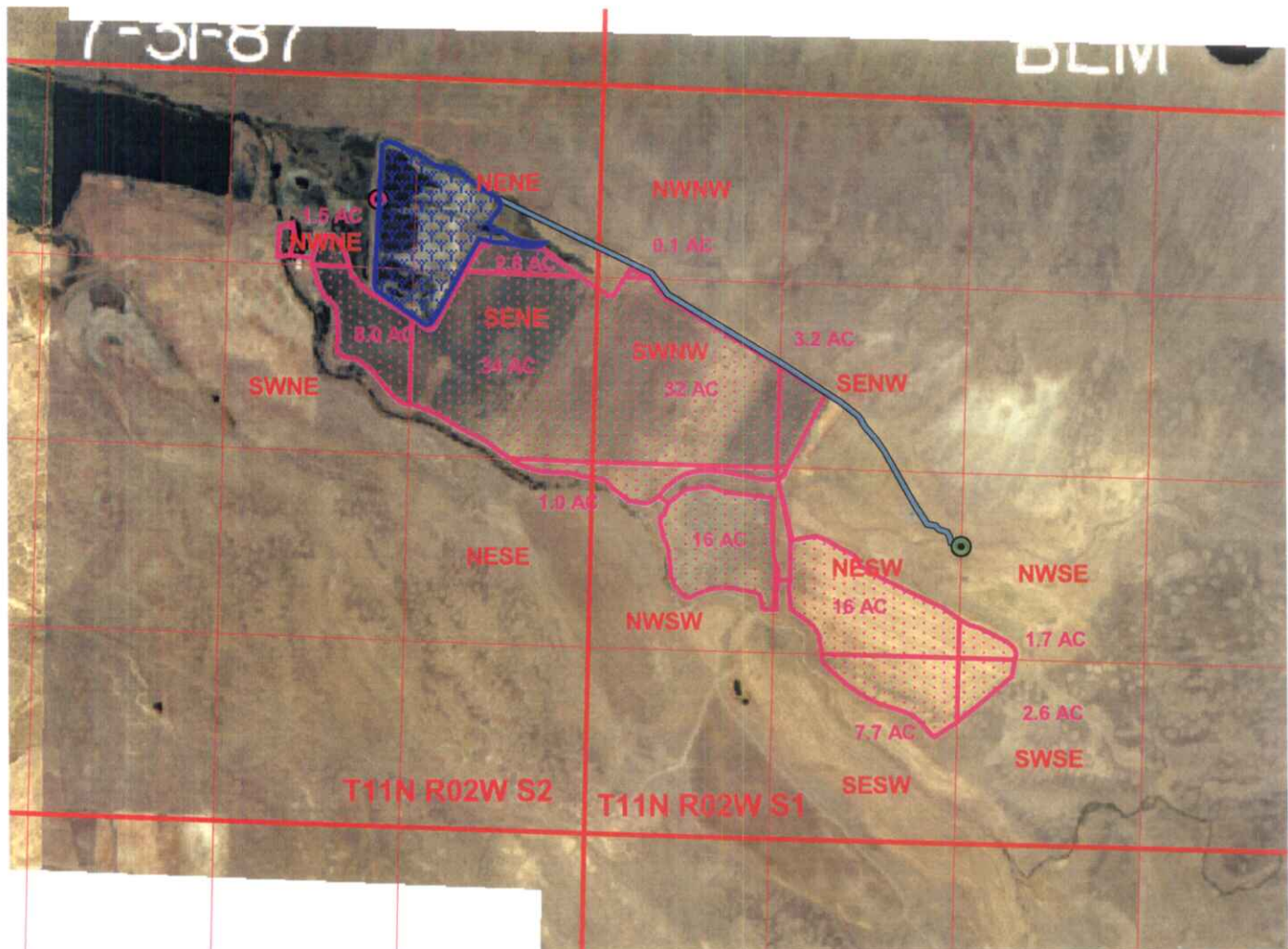
The water for this permit comes from an unnamed stream, run through a ditch to a reservoir. The reservoir is the same reservoir described in 67-7281, and the place of use is the same place of use described in 67-2365 and 67-7281. The only difference with this permit is that it describes the full capacity of the reservoir of 90 acre-feet, and it diverts water from a separate source.



FIELD EXAM 67-7292

PLACE OF USE

BY DAN NELSON



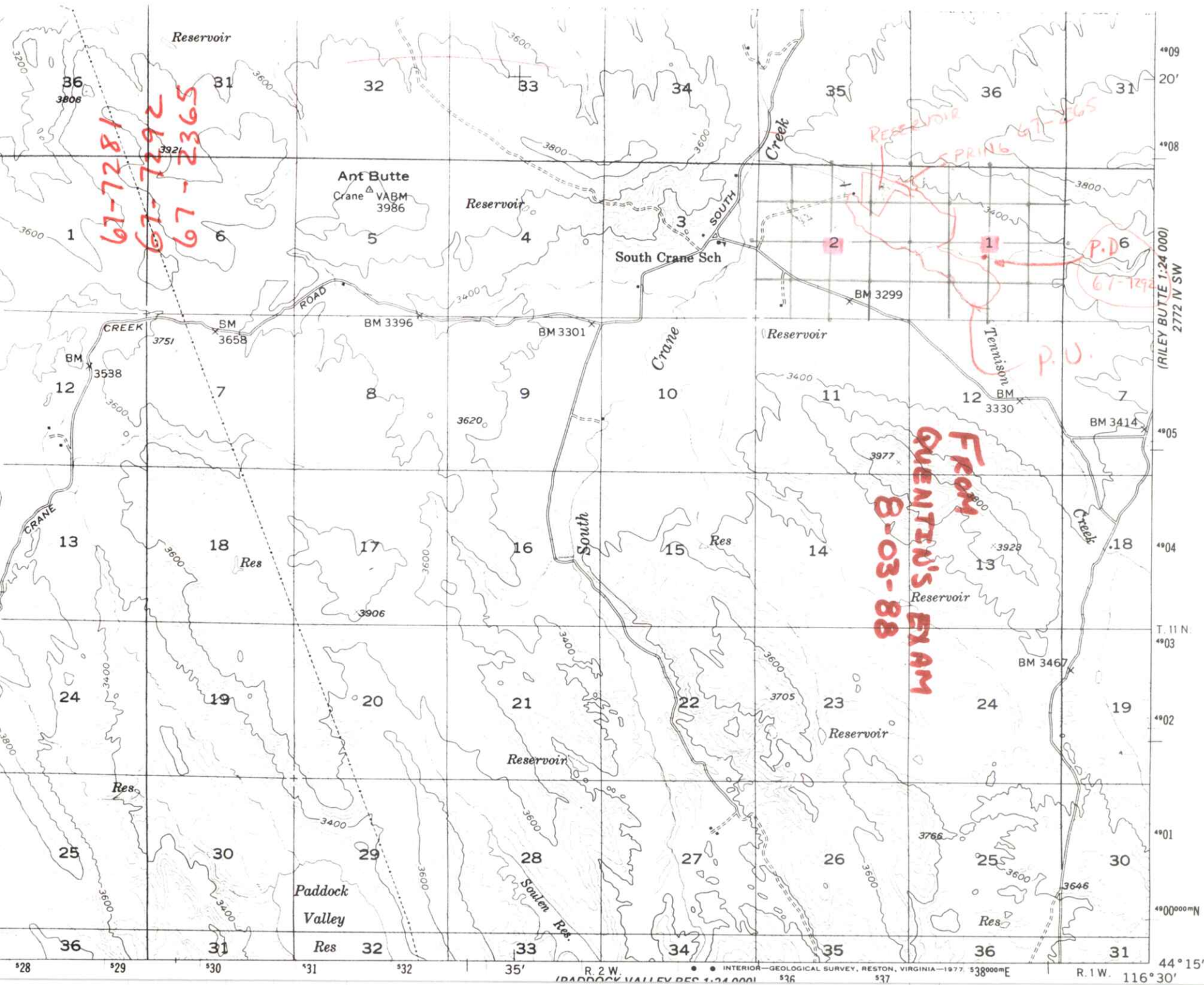
0.4 0 0.4 0.8 Miles

-  RESERVOIR
-  POINT OF DIVERSION
-  RESERVOIR SUPPLY DITCH
-  RELIFT PUMP
-  PLACE OF USE
-  SECTION LINES
-  1/4 1/4 LINES



PLEASE NOTE:

The water for this permit comes from an unnamed stream, run through a ditch to a reservoir. The reservoir is the same reservoir described in 67-7281, and the place of use is the same place of use described in 67-2365 and 67-7281. The only difference with this permit is that it describes the full capacity of the reservoir of 90 acre-feet, and it diverts water from a separate source.



(FROM FIELD EXAM DATED 7-17-89)

CONDUCTED BY KELLY K. CHRISTENSEN

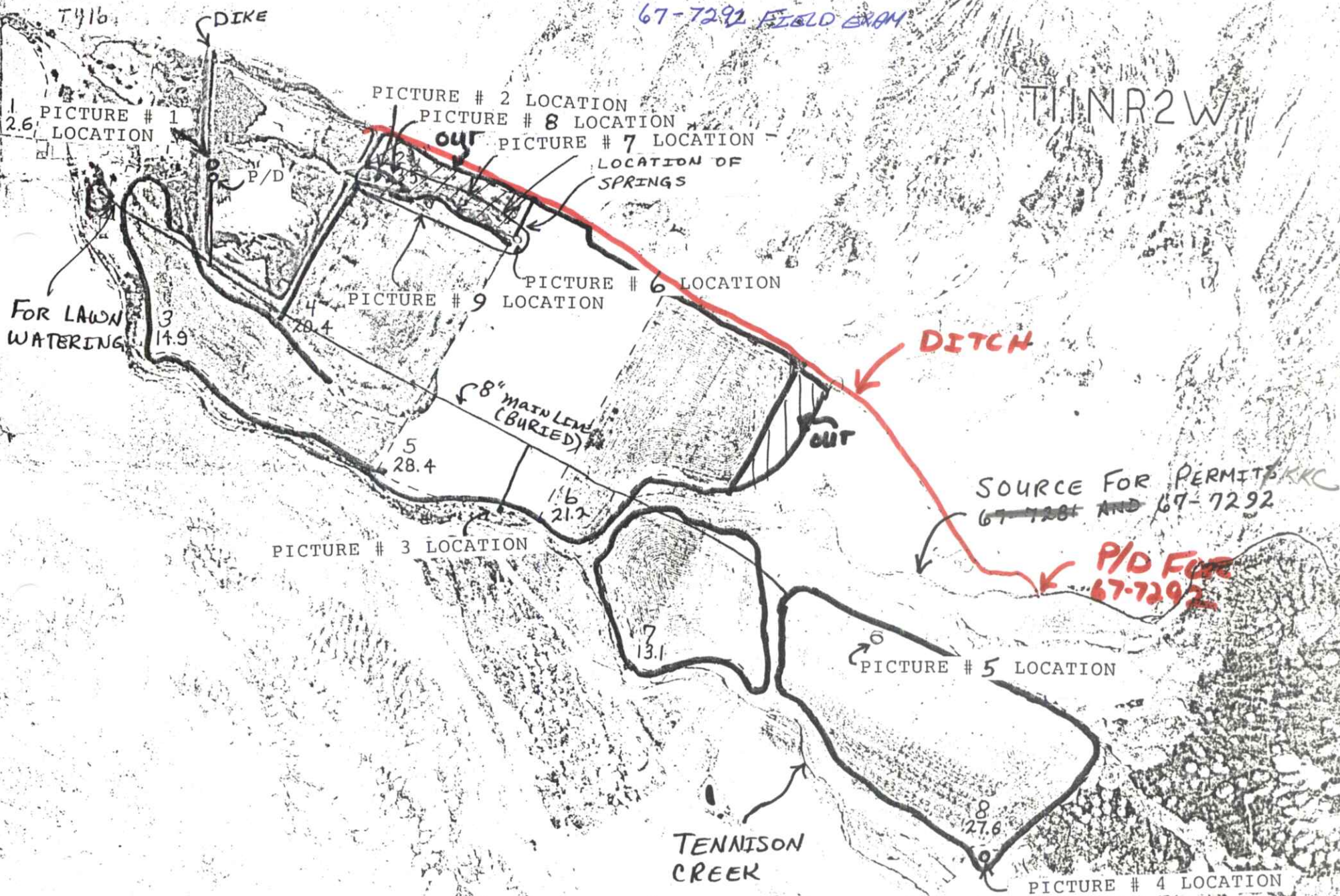
(PERMIT 67-2365)

35	36
2	1

INFORMATION
FOR PERMIT
67-7292 FIELD EXAM

1979
FLIGHT

TIINR2W



STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

Water Right No.
(if applicable)

Open Channel Discharge Measurement Notes

A. GENERAL INFORMATION

- GENERAL INFORMATION
1. Name of stream or ditch: UNNAMED Stream Trib to TENAISON CR.
2. Location: NE SW SECTION 1 T11N R2W WASH CO.
3. Person conducting measurement: GENE GIBSON
4. Date and time of measurement: 3-13-90 2:30 p
5. Accompanied by: _____
6. Measuring device size and ID no.: HYGMY Meter 090194
7. Spin test before measurement OK? OR after measurement OK? OR
8. Purpose of measurement: DETERMINE Diversion To Storage

B. MEASUREMENT DATA

[illegible]

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
RECORD OF INSPECTION OF DAM

Name of Dam: LAND
Name of Owner: FRANK LAND

Stream: TENNISON CREEK
Location: 11N-2W-2

☒ Offstream

Individuals Accompanying Inspector: NO ONE

Reservoir Characteristics: Dam Height : 13 FT

Surface Area: 12 AC

Storage Capacity: 90 AC-FT

Hazard Classification: 2-NO CHANGE

Photographs : YES

CONDITION OF EMBANKMENT OR STRUCTURE : ☐ - Poor ☐ - Fair ☒ - Good ☐ - Excellent

TYPE : ☒ - Earth ☐ - Rockfill ☐ - Conc. Arch ☐ - Conc. Gravity ☐ - Timber Crib ☐ - Other _____

	UPSTREAM SLOPE	CREST	DOWNSTREAM SLOPE	TOE AREA
SURFACE COVER MATERIAL	EARTH/RIPRAP	EARTH	EARTH	EARTH
GROWTH	WEEDS	PASTURE GRASSES	PASTURE	CATTAILS, A FEW SMALL WILLOWS
SETTLEMENT Or CRACKS	NONE	CRACKS-GONE	NONE	NONE
SURFACE EROSION	NONE	NONE	NONE	NONE
DEBRIS	NONE	NONE	NONE	NONE
ANIMAL BURROWS	NO NEW MUSKRAT ACTIVITY NOTED	NONE	NONE	NONE
CREST WIDTH AND SLOPE MEASUREMENTS	3:1	20 FT	2:1	FLAT

CONDITION OF OUTLET WORKS ; ☒ - Poor ☐ - Fair ☐ - Good ☐ - Excellent

Location ; ☐ - Left Side ☒ - Center ☐ - Right Side ☐ - Other _____

Description and Condition;

12" DIA CONCRETE PIPE THRU THE DAM, OUTLET GATE CATWALK AND CONTROL STEM ARE GONE, OUTLET IS NOT OPERATIONAL.
IRRIGATION PUMP ON THE DAM CREST-OPERATING

Gate Hoist : ☒ - Manual ☐ - Electric ☐ - Other _____

Stem : ☐ - Inclined from entrance to crest ☐ - Vertical on tower at entrance
☐ - Vertical through dam crest ☐ - Downstream valve

Entrance ; GATE FRAME EXPOSED.

Outlet : LAST PIPE SECTION DISPLACED-NO CHANGE

CONDITION of SPILLWAY : ☐ - Poor ☐ - Fair ☒ - Good ☐ - Excellent

-SERVICE SPILLWAY-3.5 FT. DIA DROP INLET AT OUTLET PIPE

Location : ☐ - Left abutment ☒ - Right abutment ☐ - Away from dam ☐ - Other _____

Base width : 8 FT Freeboard at crest : 1.7 FT Sideslope : 3:1 Channel slope : MILD

Over flow channel : ☒ - Well defined ☒ - Flow directed away from toe ☐ - Flow could reach toe

Erosion control present : EARTHEN CHANNEL

Erosion present : NONE

Maintenance condition : Debris SMALL DRIFTWOOD

Growth PASTURE

SEEPAGE:

Reservoir level during inspection : LOW, < 1/3 STORAGE-RESERVOIR BEING DRAFTED FOR IRRIGATION

	TOE AREA	DOWNSTREAM SLOPE	ABUTMENTS	OTHER
Piping of material Evident (Est. G.P.M.)	NONE	NONE	NONE	
Flowing water (Est. G.P.M.)	NONE	NONE	NONE	
Marshy or Standing water	DRY	NONE	NONE	
Damp	DRY	NONE	NONE	
Evident from Growth present	CATTAILS	NONE	NONE	

GENERAL CONDITION AND DESCRIPTION OF DAM :

FAIR-GOOD, NO CHANGE IN THE OUTLET WORKS SINCE THE PREVIOUS INSPECTION.
GATE STEM AND CATWALK ARE STILL MISSING. IRRIGATION PUMP IS AVAILABLE FOR DRAFTING DOWN THE RESERVOIR IF NEEDED.

RODENTS AND GROWTH ARE CONTROLLED.

INSTRUMENT READINGS (Piezometer, Seepage measurements, Alignment, Elevation, etc.)

NONE TAKEN

RECOMMENDATIONS :

ISSUE A GENERAL STORAGE CERTIFICATE; AUTHORIZE STORAGE UNTIL NOVEMBER 1, 2005
-RETAIN 2 FT MINIMUM FREEBOARD AND 1 FT/DAY RESERVOIR FILLING CONDITIONS

MAINTENANCE/REPAIR

-REPLACE GATE STEM AND CATWALK SO OUTLET IS OPERATIONAL.
-CONTINUE TO CONTROL RODENTS AND WOODY GROWTH ON THE EMBANKMENT.

DATE : 7/10/03

INSPECTED BY : J. WESTRA, WESTERN REG.



Photo #1: South dike upstream slope- good.

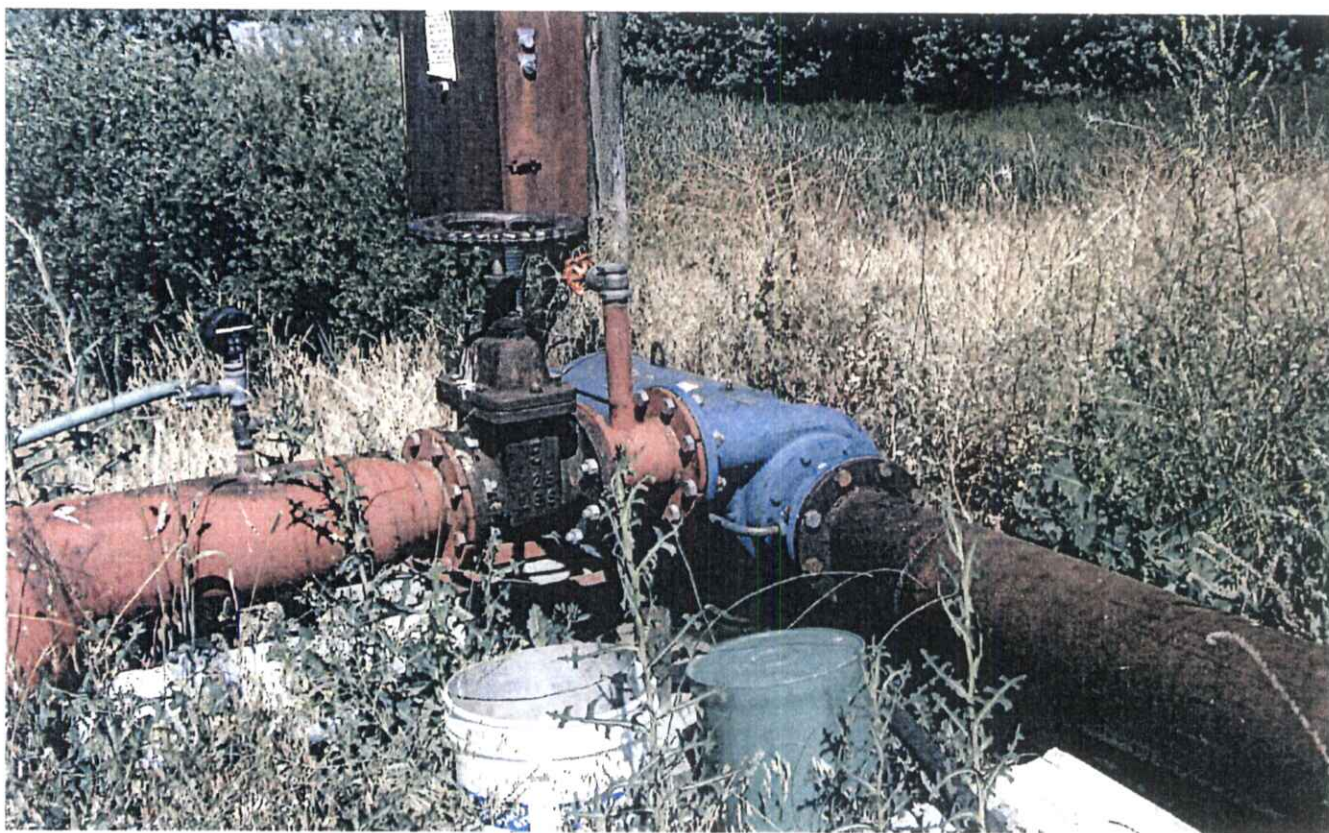


Photo #2: Irrigation pump center portion of the main embankment- pump is on.

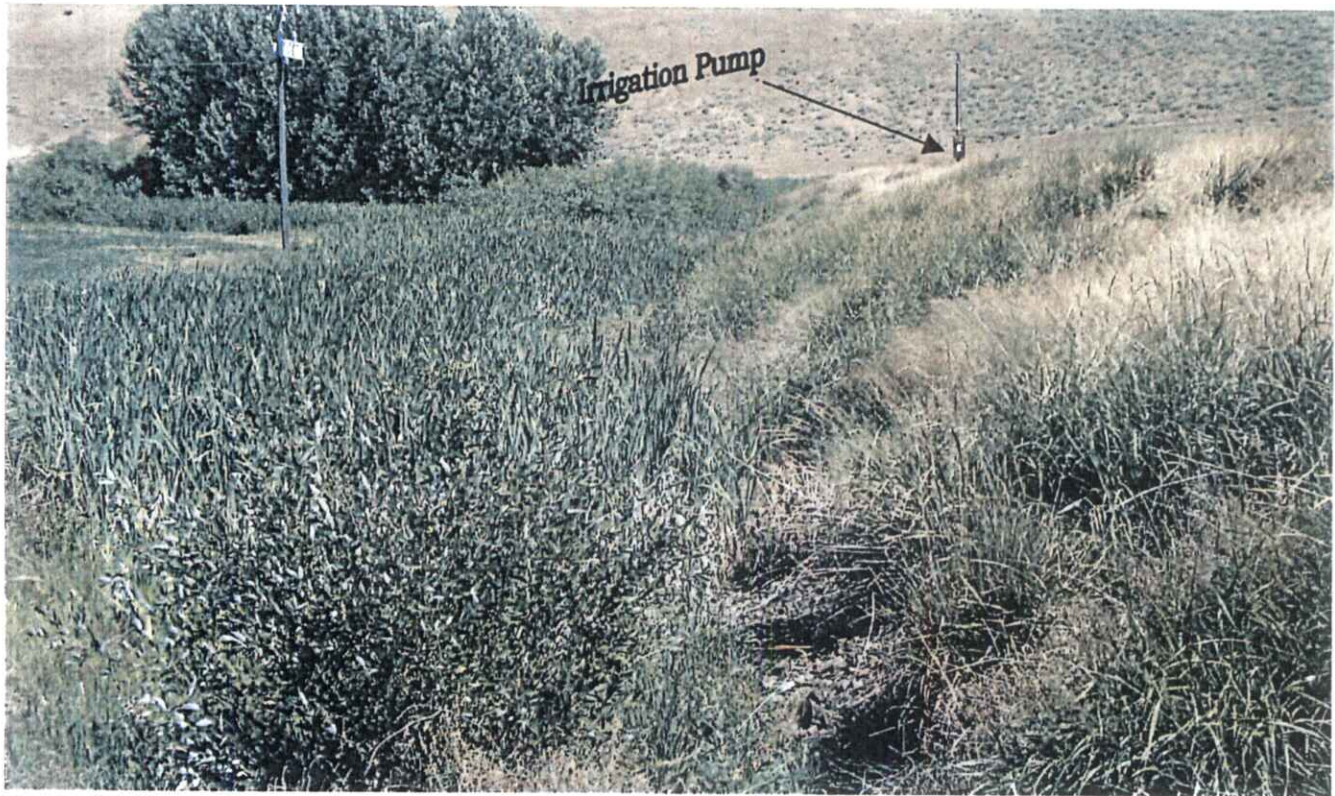


Photo #3: Downstream slope and toe of the main embankment, from the south.



Photo #4: Main embankment crest and upstream slope, good.



Photo #5: Spillway channel looking downstream.



Photo #6: Gate frame sticking up in the reservoir.

copy

ANALYSIS OF PERMITS 67-02365, 67-07281, AND 67-07292

DATE: 03-09-90
FROM: KELLY K. CHRISTENSEN
TO: ALL THREE FILES

RE: REANALYSIS OF THE PERMITS FOLLOWING A SECOND EXAM ON 7-17-89

On 8-03-88 Quentin Nesbitt conducted a field examination for each of the three exams. His completed exams were all placed in one file for review and 67-02365 was inadvertently left on the "Permits Requiring Field Exams" list. I reexamined permit 67-02365 on 7-17-89.

Although the findings for both examinations were essentially the same the interpretation of the findings and the recommendations are different.

This report is to integrate the two findings and submit a final recommendation for licensing.

67-02365 is analyzed first, Per priority date

The permit

irrigation of 322.88 acres @ 6.46 cfs; the system, ponds, pump, and sprinkler
the source, springs
P/D, spring location

Quentin found

irrigation of 129 acres @ 2.70 cfs; the system, 90 af pond, pump and sprinklers
the source, springs
P/D, spring location

I found

irrigation of 120 acres @ 2.00 cfs; the system, 90 af pond, pump and sprinklers
the source, unnamed stream
P/D, reservoir dike

Analysis of Acreage

The discrepancy in acreage is from field boundary interpretation and I stand by my recommendations. The primary difference was a small area between two fields that Quentin included and I excluded. In Quentin's field report he reversed the section numbers for the acreages listed for all three field exams. Attachment A compares the permitted acres, acres found by Quentin (with the section numbers corrected), and acres found by me.

Analysis of Diversion Rate

The difference in the diversion rate recommendations is based upon the fees paid schedule. The fee submitted was for a maximum of 2.00 cfs and/or 200 af. I found a diversion rate of 2.10 cfs but the limiting factor for this permit was found to be the fees paid, therefore the license should reflect the 2.00 cfs rate.

Analysis of System and Source

The system description on the original permit indicates a pond or ponds retaining water and then pumped to the P/U via a portable pump. Both Quentin and I found a 90af reservoir with a pump installed on the reservoir dike with a pipe line distributing the water to the place of use. The pond mentioned in the original report was identified in both field examinations as a small pond (with the dike breached) located between the entrance of the now existing 90af reservoir and the springs. The permit intent was for an irrigation right with a small pond as a part of the diversion works rather than for storage. This is reflected in the recommendation for an irrigation right and no storage (Quentin's recommendation includes 75af of storage).

The source analysis and recommendations are analyzed by an addendum to my field report for permit 67-02364, dated 8-24-89 by S. Lester,. The original pumping station was located at the original pond but as this pond was breached before the field exam and the new pumping station was installed on the dike of the new reservoir this is interpreted as the proper location for the P/D. This places the legal description for the P/D into a different Q-Q than listed on the permit and Quentin's field examination. I recommend that the P/D be amended to reflect the pumping station on the now existing reservoir.

Summary for 67-02365

120 acres recommended for licensing @ 2.00 cfs;	<u>the system,</u>	pump on dike and
(an irrigation right)		sprinkler system
	<u>the source,</u>	unnamed stream
	<u>P/D location,</u>	reservoir dike

67-7281 analysis, Second in priority

This permit was filed to just add the reservoir to the system described for permit 67-02365 therefore all acre, source, P/D, and system descriptions will remain the same.

The permit lists 75af, fees paid cover 100af maximum, and 90af were found therefore the permitted af is the limiting factor.

67-07292, Third in priority

This right is a diversion-to-storage right for 95af that utilizes the same storage reservoir and pumping system. The source is a new unnamed stream that flows just south of the unnamed stream in which the springs are located. Quentin's measurement was a sprinkler gauge measurement of the re-diversion from the reservoir rather than from the point of diversion to storage. The diversion to storage was measured by Gene Gibson on 03-13-90 via a pygmy current meter and the measurement is included in the 08-03-89 field examination report by Quentin Nesbitt. The P/U recommended for licensing for 67-02365 stands for this permit also. The recommendations for licensing are listed in the 08-03-89 field report and are also summarized on attachment 2.

67-7292

QN EXAM (8-03-88)



P.D.

FIELD NOTES

PERMIT NUMBER 67-7292

PLEASE NOTE: These documents are for backup purposes only and are not apart of actual Beneficial Use Field Report.

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No. 67-7292

1. Owner: FRANK D &/or TREVA LAND Phone No. 355-2487

Current Address: 3430 BIG FLAT Rd. MIDVALE ID. 83645

2. Accompanied by: FRANK LAND EXAM. DATE: 8-3-88

Address: SAME Phone No. _____

Relationship to Permit Holder: OWNER

3. Source: UNAMED STREAM tributary to TENNISON CREEK

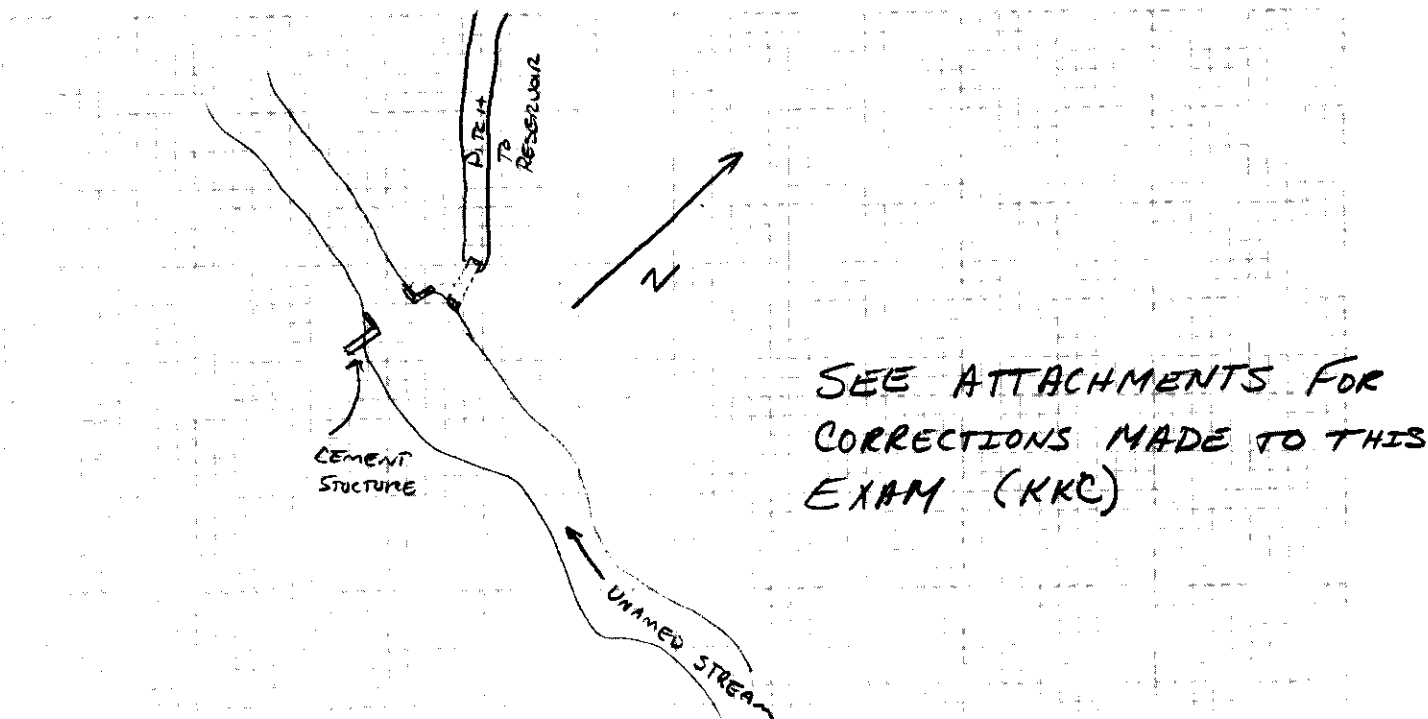
B. OVERLAP REVIEW

1. Other water rights with same place of use: 67-7281, 67-2365 - ALL PERMITS
SAME P.O. - EXAM DONE AT SAME TIME. ☒ Copies Attached

2. Other water rights with same point of diversion: NONE
_____ ☐ Copies Attached ☐ Copies of Field Exam's Attached

C. SYSTEM DESCRIPTION

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



Scale: 1" = NOSCALE

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

☒ Photo of Diversion and System Attached
(required for all but single household domestic groundwater, and stockwater.

☒ Aerial Photo Attached
(required for irrigation of 10 acres or more).

System Description (continued)

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

SYSTEM CONSISTS OF DIVERSION STRUCTURE IN AN UNNAMED STREAM WITH A DITCH WHICH DIVERTS WATER TO 90 ac-ft RESERVOIR DURING RUNOFF PERIODS. IRRIGATION IS DONE FROM THE RESERVOIR WITH A 60 HP CENTRIFUGAL PUMP AND WHEELINE SYSTEM.

☐ See Remarks on page 4 for continuation

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
	G.E.	60 HP	GJ6284016	CORNELL	17686

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

5. Point(s) of Diversion:

[illegible]

6. Place(s) of Use:

Indicate Method of Determination AERIAL PHOTO

[illegible]

KKC
EXAM ON
7-17-89
SEE ATTACHMENTS.

Do not use this space

Do not use this space

D. FLOW MEASUREMENTS

☐ Additional Data Sheets Attached

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
SPRINKLER						
GAUGE						

2. Measurements: QN'S MEASUREMENTS ARE A SECONDARY DIVERSION MEASUREMENT. GENE GIBSON MEASURED DIV TO STORAGE ON 4 WHEEL LINES + 2 HAND LINES ALL 1/4 MILE LONG 3-13-90 KKC
 33 HEADS 1/4 MILE @ 250 PSI 1 1/4" & 5/32" NOZZLES
 CHART ==> 6.01 G.P.M x 33 HEADS x 6 LINES = 1,189.98 G.P.M
 = 2.65 cfs
 From Dam SAFETY FILE CAPACITY OF RESERVOIR 90 acft

E. FLOW CALCULATIONS

☐ Additional Computation Sheets Attached

1. Measured Method: SPRINKLER GAUGE : 2.65 cfs 129 ac x 102 cfs/ac = 2.58 cfs
2. Alternate Method for Checking Purposes: THEORETICAL:

F. PUMP EFFICIENCY DATA (Optional)

$$\frac{60 \text{ HP} \times 8.8 \times .8}{(231 \times 50) + 10 \text{ ft}} = 3.36 \text{ cfs} > 2.58 \text{ cfs} \text{ O.K.}$$

Discharge Pressure: NOT DONE MEASUREMENT psi x 2.31 = ft (1); Dynamic pumping level: ft (2)
 Total Head: (1) + (2) = (3) NOT GOOD ; Flow rate: cfs (4)

Water HP: (3) x (4) ÷ 8.8 = (5)
 Meter Input KW: 3.6 x KH x CTR or MULT x PTR x N/ T = (6)
 Meter Input HP: (6) x 1.34 = (7)
 Panel Input KW: Ave PF x Ave Volts x Ave Amps x .001732 = (6)
 Panel Input HP: (6) x 1.34 = (7) Efficiency: (5)/(7) x 100 = %

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

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

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \text{LIMITED TO 75 ac ON PERMIT.}$$

2. Volume Calculations for Other Uses:

CAPACITY OF RESERVOIR 90 acft

H. REMARKS AND OVERLAP REVIEW ANALYSIS

* OVERLAP

THIS PERMIT IS FOR THE SAME RESERVOIR AS 67-7281
AND IS USED FOR THE SAME LAND AS 67-2365 + 67-7281.

- I RECOMMEND THAT AN AMENDMENT BE MADE TO INCLUDE
THE P.U. NOT SHOWN ON THE PERMIT.

I. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
DIVERSION TO STORAGE	12-1	5-1	~~20 cfs~~ .899 cfs	~~90 afa~~
STORAGE FOR IRRIGATION	1-1	12-31		90 afa
IRRIGATION FROM STORAGE KRC	4-1	10-31		90 afa
Totals:			.899 cfs	90 afa

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

J. AUTHENTICATION

Field Examiner's Name QUENTIN NESBITT
Signature Quentin Nesbitt
Certification Date _____
Field Report Preparation Date 8-22-88

RR 5-11-90

CONSULTANT SEAL

- K. Licensing recommendation shall be prepared by an Idaho Department of Water Resources employee on a computer printout attached hereto.