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SEP 17 2004

Permit No: 63-11665

Page 1 DEPARTMENT OF
WATER RESOURCES

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-11665

Exam Date: 9-7-2004

1. Current Owner: STEPHEN E WOODARD
18139 DEAN LN
NAMPA ID 83687-8135
(208)466-6008
2. Accompanied by: STEVEN WOODARD
Phone No: SAME AS ABOVE
Address: SAME AS ABOVE
Relationship to Permit Holder: PERMIT HOLDER

3. SOURCE TRIBUTARY
GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 63-21122 AND PIONEER IRRIGATION DISTRICT
2. Other water rights with the same point of diversion: 63-21122 AND PIONEER IRRIGATION DISTRICT

C. DIVERSION AND DELIVERY SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:

GROUND WATER SE1/4NW1/4 Sec. 26, Twp 04N, Rge 02W, B.M.
CANYON County

Method of Determination: VISUAL INSPECTION AND GIS MAPS

2.

PLACE OF USE: IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
04N	02W	26	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	37.4
										37.4									37.4

Total Acres: 37.4

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	GE VERTIMAX	20 Hp	N8P1887	LAYNE PUMP	12RKBM 9.18 IMPELLER DIAMETER

*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 start up the motor with power demand charges. Therefore, a theoretical calculation and pump curve was used to determine the flow rate.

E. FLOW CALCULATIONSYES Additional Computation Sheets Attached

Measured Method:

Theoretical calculation → 1.04 cfs
 Pump Curve (with correction for TDH) → 1.04 cfs*
 Permit allows → 0.80 cfs
 Acre limitation (0.02 cfs X 37.4 acres) → 0.75 cfs

PLEASE NOTE: This permit is limited by the maximum allowable rate per acre or 0.75 cfs for the 37.4 acres being irrigated. Therefore, it is the recommended amount.

* Please see the theoretical calculation sheet for explanation of adjustment of the pump curve.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 37.4 \text{ ac} \times 4.5 \text{ ir} = 168.3 \text{ afa}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.75 \text{ cfs} \times 260 \text{ days} \times 1.9835 = 386.8 \text{ afa}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 168.3 \text{ afa}$$

2. Volume Calculations for Other Uses

G. NARRATIVE/REMARKS/COMMENTS

The water for this permit is diverted from the well by a 20Hp pump into a mainline that travels due west for approximately 30 feet to a cement ditch. Once the water enters the ditch it travels south for approximately 1/8 of a mile and irrigates the north field. Approximately in the middle of the mainline (approximately 15 ft from the pump) a second mainline comes off and travels southwest for approximately 1/4 mile to the middle of the ditch that feeds the south field. The south field ditch runs along the south end of the field. The water diverted into the south ditch by the well can be run either way down the ditch to irrigate this field.

The only overlapping rights are the owners domestic water right and Pioneer Irrigation District water rights. This water right is supplemental to the Pioneer 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	0.750 CFS	168.30 AF
	<u>Totals:</u>	0.750 CFS	168.30 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

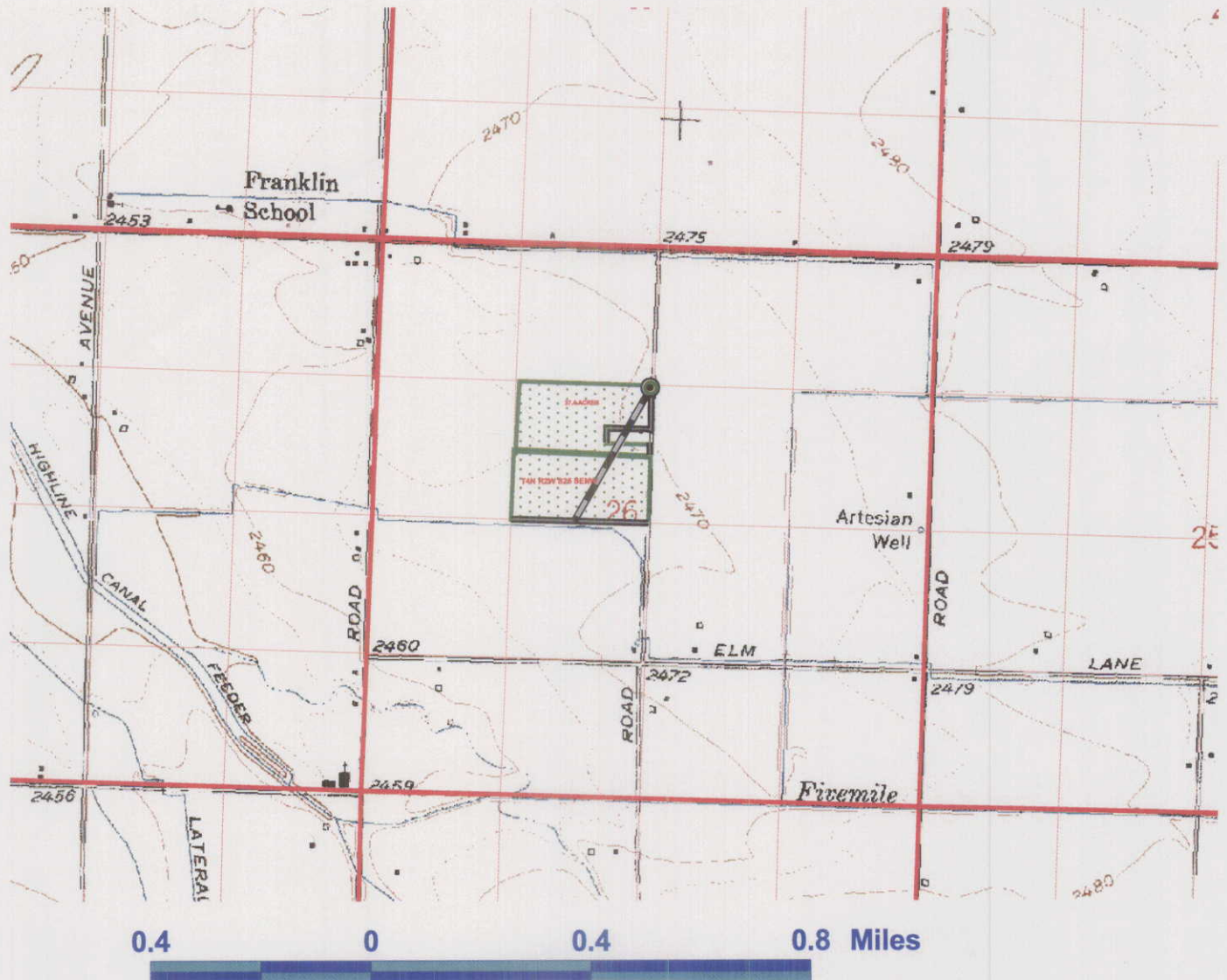
DANIEL A. NELSON – SENIOR AGENT

Field Examiner's Name Daniel A. Nelson Date 9-15-04

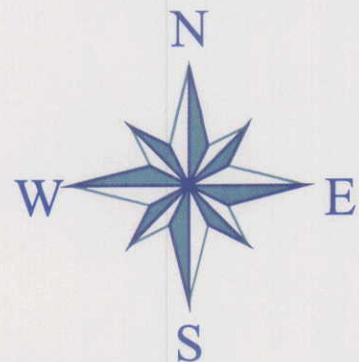
Reviewer _____ Date _____

SEAL

63-11665 FIELD EXAM BY DAN NELSON 9/7/2004



- WELL
- ~ BURIED MAINLINE
- ~ CEMENT DITCHES
- LANDS IRRIGATED
- SECTION LINES
- 1/4 1/4 LINES

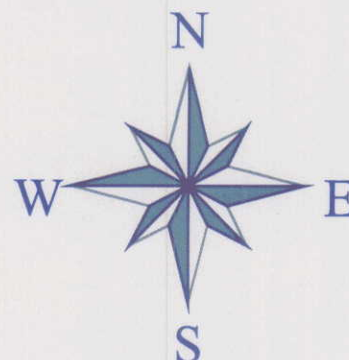


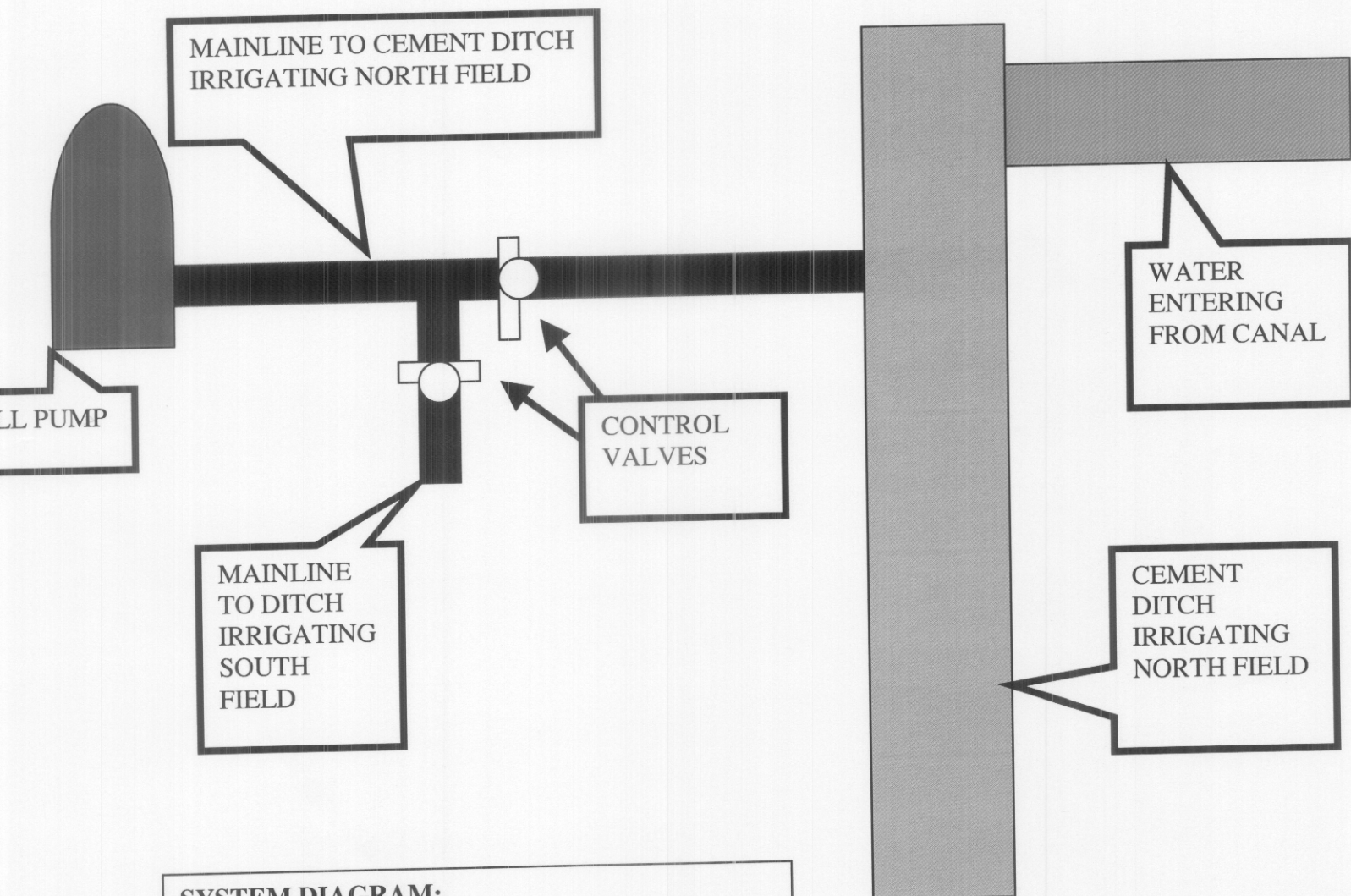
63-11665 FIELD EXAM BY DAN NELSON 9/7/2004



0.1 0 0.1 0.2 Miles

- WELL
- ⌵ BURIED MAINLINE
- ⌵ CEMENT DITCHES
- ▨ LANDS IRRIGATED
- SECTION LINES
- 1/4 1/4 LINES





SYSTEM DIAGRAM:

Water is diverted from the well by a 20 Hp pump and run through a mainline due east approximately 30 ft to a cement ditch. The cement ditch irrigates the north field. The water can be diverted into a second buried mainline that runs southwest to the ditch that irrigates the south field.

GROUNDWATER THEORETICAL ANALYSIS

FILE: 63-11665.

DATE: 9-7-04

BY: Daniel A. Nelson

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

Q = CFS

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

Eff. = Pumping plant efficiency (assume 70% or 0.70)

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])

$$Q = \frac{(8.8) \times (20 \text{ HP}) \times (0.70)}{[(95 \text{ FT.}) + (10 \text{ PSI} \times 2.31)]} = \frac{1.04 \text{ CFS}}{468 \text{ gpm}}$$

LIFT FROM:

Measurement ()

Owner ()

Area estimate (X)

Well Logs ()

PSI FROM:

Measurement ()

Owner ()

Estimate (X)

Owner Gage ()

Booster (Y) (N)

NOTES ON PUMP:

Motor Make, Serial or ID

Pump Make, Serial or ID, rating

REMARKS: The pump installer lists a TDH of 70 FT. However, this ~~was~~ pumping level seemed suspect for this large of pump. I used an average using the information from the well log 205 FT well depth minus 15 FT static water level divided by 2 equals an estimated pumping level of 95 FT. I also estimated the open discharge pressure at 10 PSI.

The pump curve supplied by the pump installer showed a pump capacity of 800 gpm at 70 FT TDH. I used the affinity laws to estimate the flow at 118 FT calculated above. $800 \text{ gpm} \times (70 \text{ FT TDH} / 118 \text{ FT TDH}) = 468 \text{ gpm}$. It is safe to assume the well capacity is above 468 gpm and the maximum allowable of 0.75 CFS.*

* maximum allowable based on an inch per acre or 0.02 CFS for 37.4 acres. $0.02 \text{ CFS} \times 37.4 = 0.75 \text{ CFS}$.

Steve Woodward

CURVE NO.
18-101
6-1-77

No. Stages	Change	MATERIAL	Eff. Change
1	-3	IMP.—C.I.	-2
2	-1	IMP.—NI-R	-1
3	0	BOWL—BRZ.	-1
4		BOWL—NI-R.	-1

12RKBM

1760 R.P.M.

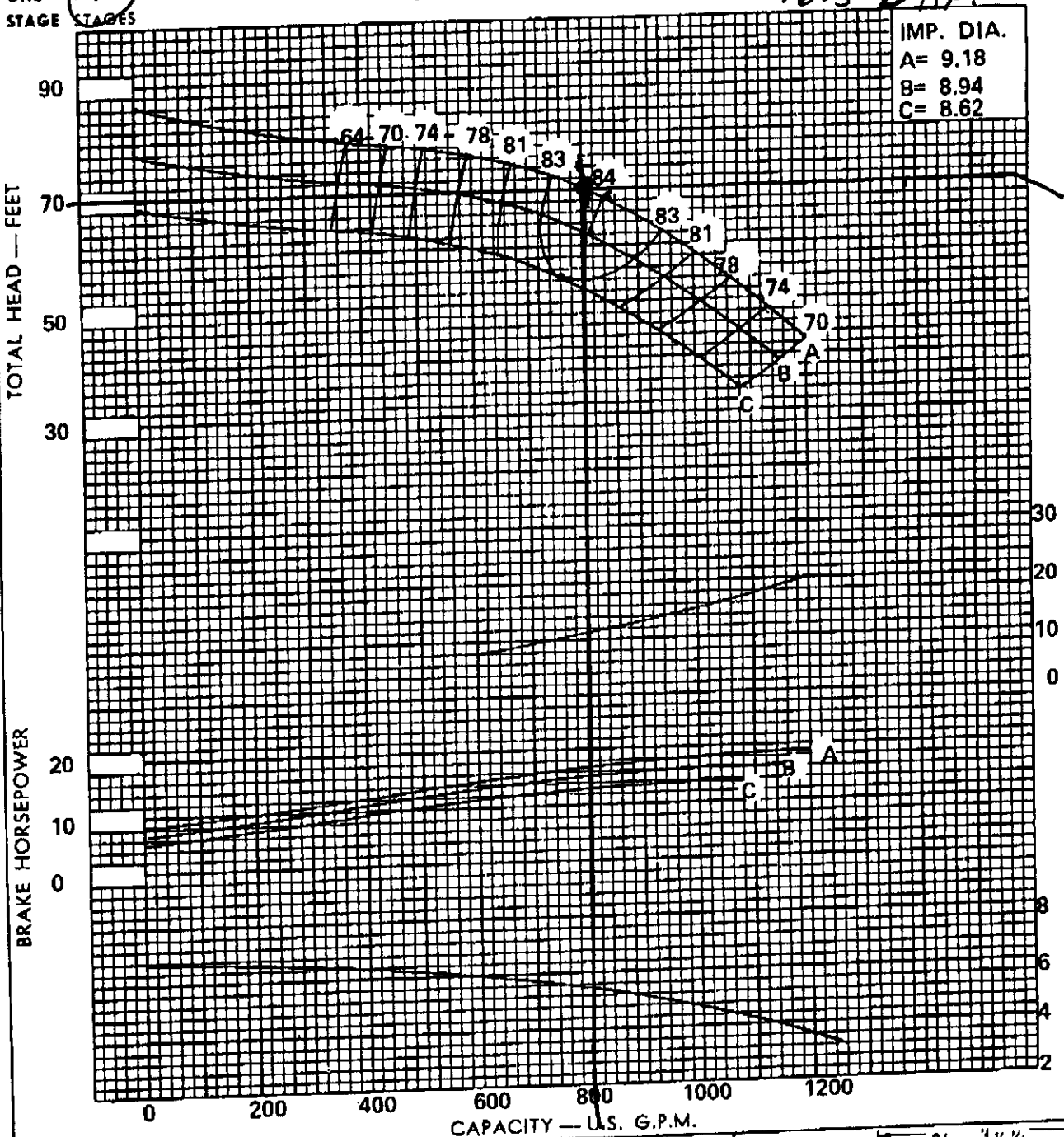
SINGLE STAGE LAB PERFORMANCE WITH STANDARD MATERIALS. EFFICIENCY SHOWN FOR 3 OR MORE STAGES. HORSE POWER SHOWN FOR ONE STAGE BASED ON 3 STAGE EFFICIENCY. CORRECTIONS SHOULD BE MADE FOR STAGES AND MATERIAL.

ONE STAGE STAGES

800 G.P.M.

70 FT. TDH
18.5 B.H.P.

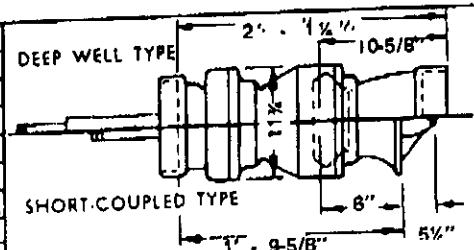
IMP. DIA.
A= 9.18
B= 8.94
C= 8.62



N.P.S.H. REQUIRED — FEET

THRUST FACTOR

EYE AREA — SQ. IN. = 16.4	IMPELLER WT..LBS. = 15.4
WR ² PER IMPELLER = 1.00 LB.-FT. ²	ONE STAGE WT..LBS. = 278
MAX. SPHERE SIZE = 0.875 in.	ADD'L STAGE WT..LBS. = 105
MAX. NO. STD. STAGES = 18	IMPELLER NUMBER = 6A15
MAX. OPERATING P.S.I. = 580	DISCH. SIZES = 8, 10
STD. LATERAL = 0.70 in.	SUCTION SIZES = 8
STD. SHAFT DIA. = 1.687 in.	MAX. LATERAL = 1.00 in.
MAX. SHAFT DIA. = 1.937 in.	BOWL CONN. FLANGED-COLLETS
MIN. SUBMERGENCE = 25 in.	ADD 9-3/8" PER ADDITIONAL STAGE.



$$205 - 15 = 190 / 2 = 95 \text{ P.W.L.}$$

IDAHO DEPARTMENT OF WATER RESOURCES

WELL INSPECTION FORM

1. DRILLING PERMIT NO: 63-92-W-146 OTHER APPLICABLE NO: 63-11665
2. OWNER: Stephen Woodard Phone: (208)466-6008
Address: 18139 Dean Lane, Nampa, ID, 83687-8135
3. WELL LOCATION: Twp 4N, Rge. 2W, Sec. 26, SE 1/4 NW 1/4
County Canyon (Provide sketch map and photo on reverse.)
4. DRILLER: Pete Cope Drilling Lic. No. 213
When Drilled? 6-29-92 TO 7-4-92
5. WELL CONSTRUCTION: TURBINE
Casing Diameter 16 inches Water tight cap? ☐ Yes ☒ No Access Port: ☒ Yes ☐ No
Casing $\geq$ 12 inches above ground? ☐ Yes ☒ No - Describe TURBINE PUMP ON PAD
Depth of Casing UNKNOWN ft. Method Drilled REVERSE ROTARY
Condition of Well Casing: ☒ Good ☐ Fair ☐ Poor Describe _____
Control Valve? ☒ Yes ☐ No Pressure Gauge: ☐ Yes ☒ No
Condition of Piping and Valving GOOD
Auger to a depth of -0~ ft. Evidence of Annular Seal ☐ Yes ☒ No CEMENT PAD
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: THIS WELL LOOKS TO BE IN
FAIRLY GOOD CONDITION

Donald H. Nelson - Senior Agent
Signature of Dept. Representative & Title

9-7-04
Inspection Date

PHOTOS, DRAWINGS, OTHER ATTACHMENTS:

See Field Exam FOR PHOTOS.

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

FILE NUMBER 63-11665



← The picture to the right is a picture of the well and the mainline the discharges into the ditch. The white mainline in the middle of the dark mainline goes to the southern field by buried mainline and discharges into the ditch for that field.

The pictures below are of the fields that are being irrigated. The southern field is on the other side of the home.

