

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

RECEIVED
AUG 2 1997

A. GENERAL INFORMATION

1. Owner: Deeg, Timothy P.

Permit No. 41-07081

Phone No. (208) 226-5588

Department of Water Resources

Current Address: 2957 Deeg Road, American Falls, Idaho 83211

2. Accompanied by: Timothy P. Deeg EXAM DATE : 6-23-97

Address: Same as owner

Phone No. Same as owner

Relationship to Permit Holder: OWNER

3. Source: GROUNDWATER tributary to N/A

B. OVERLAP REVIEW

1. Other water rights with the same place of use: NONE

2. Other water rights with the same point of diversion: 41-07076, 41-07071, AND T41-07030

C. DIVERSION AND DELIVERY SYSTEM

1. Point(s) of Diversion:

Ident No.	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge	County	Method of Determination/Remarks
P/D WELL		N W	S W	S E	06	09S	31E	POWER	VISUAL INSPECTION AND USE OF ASCS MAPS AND USGS QUADRANGLE MAPS.

2. Place(s) of Use:

Indicate Method of Determination

TWP	RGE	SEC	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
09S	30E	01				4					33			33	40	39	38.5	35	222.5
09S	31E	06							14.5 45		35	21.5 46	16 47	28.5					115.5
																			338.0

PLEASE NOTE: This permit is for 338.0 acres and is for the use of irrigation.

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

SEE ATTACHED SHEET.

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

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
P/D WELL (SITE TAG # A002787)	US MOTORS	500 Hp	7846-50-Y07Y100R0 10M	IE TOP-O-THE-LINE	14 INCH
BIG BOOSTER	BALDOR	150 Hp	MODEL # YM444TDS 7663BT	CORNELL	8H-150-4 14.00 IMP
SMALL BOOSTER	BALDOR SUPER E	15 Hp	CAT. # A 152385-55	CORNELL	4RB-15-6 12.75 IMP

*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
Polysonic portable flow meter	Tyme Flyte	149744	TF*P	N7H5506		4/29/97
Peak flow meter			DCT7 089	32862		4/29/97

2. **Measurements:** The measurements for this permit were performed on the four pivots. There was not a acceptable place to measure the diversion rate at the well. This permit will be limited to the maximum diversion rate of the well. The maximum diversion rate of the well will be used since the capacity of the well cannot run all of the irrigation system that is used on the permitted acres at the same time. Therefore, the water must be moved from field to field to irrigate the entire system. The west and the east pivots divert 1.8 cfs and 1.68 cfs for a total of 3.48 cfs and the hand lines and wheel lines divert 3.56 cfs. If all of the system were to run at the same time it would total 7.04 cfs which is well above the system capacity of 6.68 cfs.

E. NARRATIVE/REMARKS/COMMENTS

This permit gets it water from a well located in the NW 1/4 - SW 1/4 - SE 1/4 of section 06, township 09S, range 31E. There are four different water rights that use this well as their point of diversion. The water from this well can go five different directions. The first direction is due east to the pivot east of State Route 37 (this pivot is marked partial pivot on the map). This pivot is a 101.5 acre pivot.

The next direction the water can go is through a mainline traveling due north. This mainline travels north approximately 1/8 of mile and then turns due west. From this corner the main line is used to supply water to four wheel lines. The wheel lines irrigate the lands that are within a approximately 1/4 mile west of State Route 37 and approximately 1/2 mile north of Deeg road. One of the wheel lines can have a hand line attached to the end of it to irrigate the corner of the east pivot.

The third direction that the water can go is through a main line that travels in a north westerly direction to the southeast corner of SW 1/4 - Nw 1/4 of section 6. At this point the main line turns due west and supplies water to two hand lines that irrigates a 18.5 acre field to the east of the north pivot. At the end of this field the mainline continues on in a northeasterly direction and supplies water to the north pivot.

The fourth direction that the water can go from the well is through a main line that travels due west for approximately 1/2 mile to the east pivot. The east pivot irrigates approximately 132 acres. From the east pivot the main line then continues to travel west to the west pivot. The west pivot irrigates approximately 144 acres. This is the end of this pivot.

The fifth and final way that the water can travel is through a mainline that travels in a southwesterly direction for approximately 3/4 of a mile to the southwest corner of the SE 1/4 - SE 1/4 of Section 1 township 09S - range 30E. From this point the main line splits and goes in two directions. The first direction is due north through a mainline that travels approximately 1/8 mile and feeds hand lines that irrigate the southeast corner of the west pivot and the southwest corner of the east pivot. Stationary hand lines are used to irrigate these corners. The second direction the mainline can go from the split is in a southeasterly direction to the south pivot. This pivot irrigates 126 acres.

According to the Power County Assessor all of the land in this system is owned by Timothy Deeg's father Otto Deeg and his mother Ida Deeg except for an 11 acre tract

located around the house. Timothy Deeg's property is a triangular section of property with
it's east border being State Route 37 and its west border being the dividing line between SE
1/4 and the SW 1/4 of section 6 township 09S - range 31E. The southern border of
Timothy Deeg's property is Deeg Road. The well for this permit is located on Timothy
Deeg's property but is used on Otto Deeg's property. The acres for this permit are located
on Otto Deeg's land. However, this is a family farm and Timothy Deeg is the main manager
of the farm.

The lands that are associated with this permit are irrigated by the west pivot, east pivot,
six wheel lines, and two and half hand lines. The north, south, and partial pivots are
associated with other licenses and permits. There are a total of 338 acres associated with
this permit.

PLEASE NOTE: The owner did not feel that the diversion rate that was recorded by the
polysonic meter was a true measurement of his well's capacity. However, after performing
a theoretical pump capacity calculation on the well, I am confident that the measurements
that were taken on the well are correct and representative of the systems capacity. The
flow rate that was measured on the pivots was 6.68 cfs and the theoretical calculation was
6.67 cfs. In performing the theoretical calculation I used figures that would give a diversion
rate that would represent optimum operational capacity of the well. However, in order to
avoid future problems I did a second measurement of the systems capacity (see attached
memo). The second measurement showed a diversion rate of 6.57 cfs. Therefore, I am
recommending a maximum diversion rate of 6.68 cfs.

Have conditions of permit approval been met? ☒ yes ☐ no

F. FLOW CALCULATIONS

_____ Additional Computation Sheets Attached

Measured Method:

POLYSONIC READINGS (SEE ATTACHED SHEET):

NORTH PIVOT = 1.45 CFS

SOUTH PIVOT = 1.75 CFS

EAST PIVOT = 1.68 CFS

WEST PIVOT = 1.80 CFS

TOTAL = 6.68 CFS SYSTEM CAPACITY

THEORETICAL READING = 6.67 CFS (SEE ATTACHED SHEET)

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

 $V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 338 \text{ ACRES} \times 4.0 = 1352 \text{ AFA}$ $V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = 6.68 \times 214 \times 1.9835 = 2835 \text{ AFA}$ $V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 1352 \text{ AFA}$

B

2. Volume Calculations for Other Uses:

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use From To	Rate of Diversion Q (cfs)	Annual Volume V (afa)
<u>IRRIGATION</u>	<u>APRIL 01</u> <u>OCT. 31</u>	<u>6.68 CFS</u>	<u>1352 AFA</u>

Totals: 6.68 CFS 1352 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

I. AUTHENTICATIONField Examiner's Name Daniel A. Nelson Date 7-24-97

Reviewer _____ Date _____

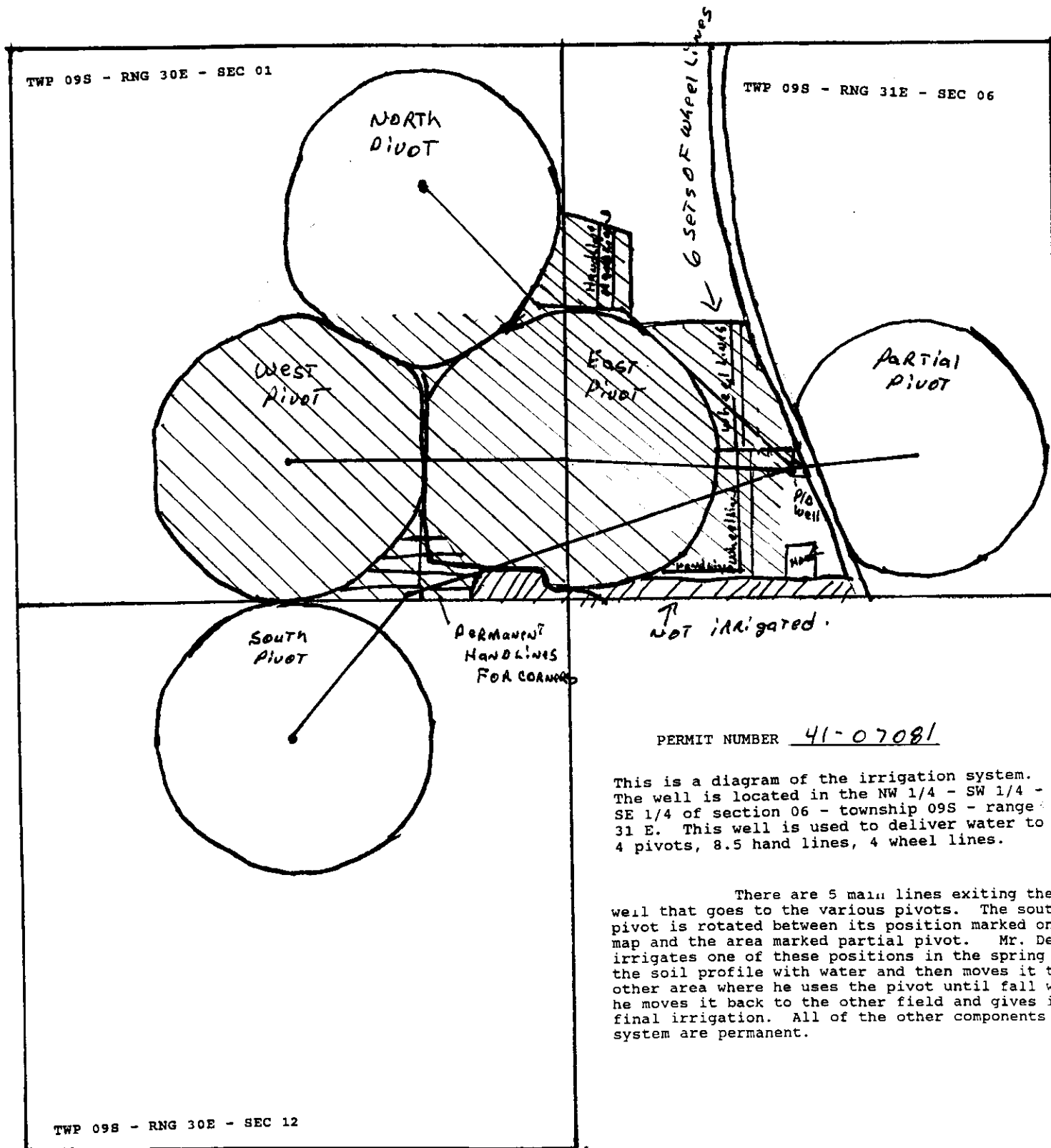
SEAL

RECOMMENDATIONS:

I recommend that this water right be licensed under the following conditions:

1. That this water right be licensed for a diversion rate of 6.68 cfs the capacity of the well and an annual volume rate of 1352 afa.
2. That this permit be licensed for a total of 338 acres.
3. That the point of diversion be limited to a maximum diversion capacity of 6.68 cfs when combined with water right number's 41-07076, 41-07071, and T41-07030.

DIAGRAM OF SYSTEM



This is a diagram of the irrigation system. The well is located in the NW 1/4 - SW 1/4 - SE 1/4 of section 06 - township 09S - range 31 E. This well is used to deliver water to 4 pivots, 8.5 hand lines, 4 wheel lines.

There are 5 main lines exiting the well that goes to the various pivots. The south pivot is rotated between its position marked on the map and the area marked partial pivot. Mr. Deeg irrigates one of these positions in the spring to fill the soil profile with water and then moves it to the other area where he uses the pivot until fall when he moves it back to the other field and gives it a final irrigation. All of the other components of the system are permanent.

PLEASE NOTE: The portion marked out in hash marks are the acres associated with this permit.

NHEL
4-74.6

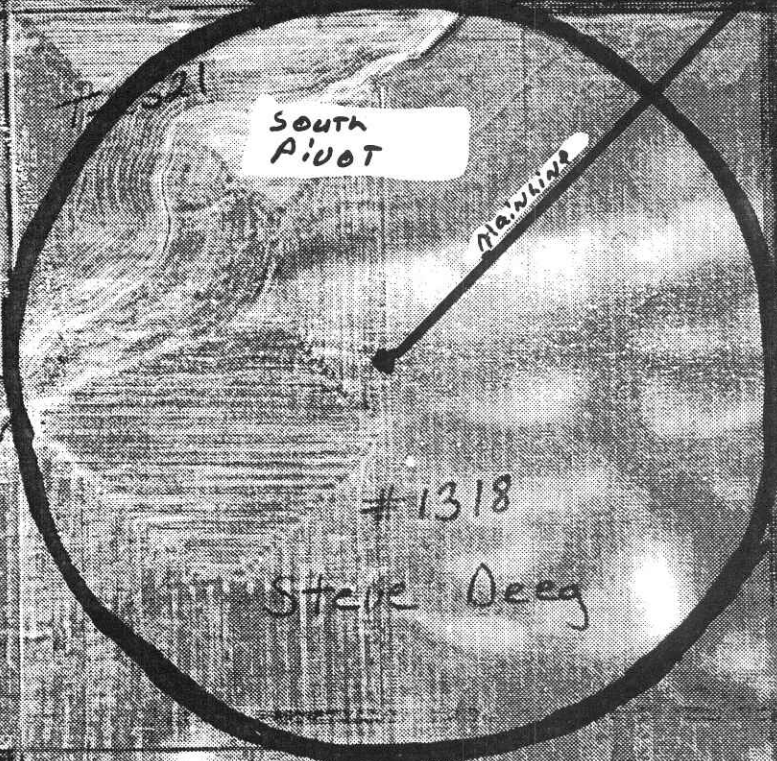
5-6.7

6-140.4 DEEB RA.

Hand Lines

main line

12/7



T-2799

B

#140
Deeg
Pivot

3-158.3

T-2582

DIAGRAM OF SYSTEM FOR PERMIT # 41-07081

ASCS AERIAL PHOTO
1987 FLIGHT

1-425.4

2. 166.8

12/7

13/18

T-2582

NHEL

4-74.6

567

6740.4

DOCK R

Hand Light

Hand Light

mainline

SOUTH
PIVOT

mainline

T-2799

B

#1318

Stene Deeg

3158.3

T-2582

DIAGRAM OF ACRES FOR PERMIT # 4107081

TOTAL ACRES = 338 ACRES

ASCS PHOTO - 1987 FLIGHT

NHEL

1-425.4

NHEL

2. 166.8

12.7

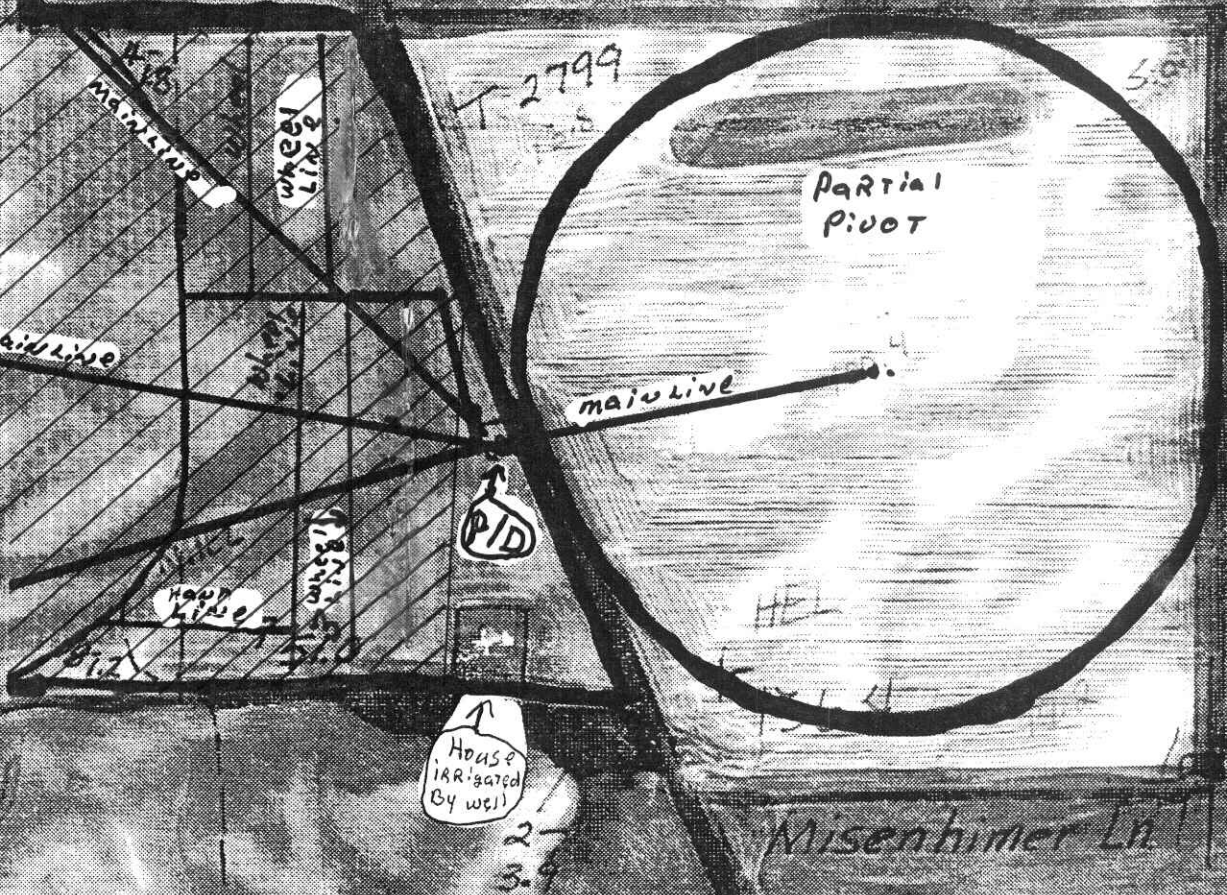
13.18

T-2582

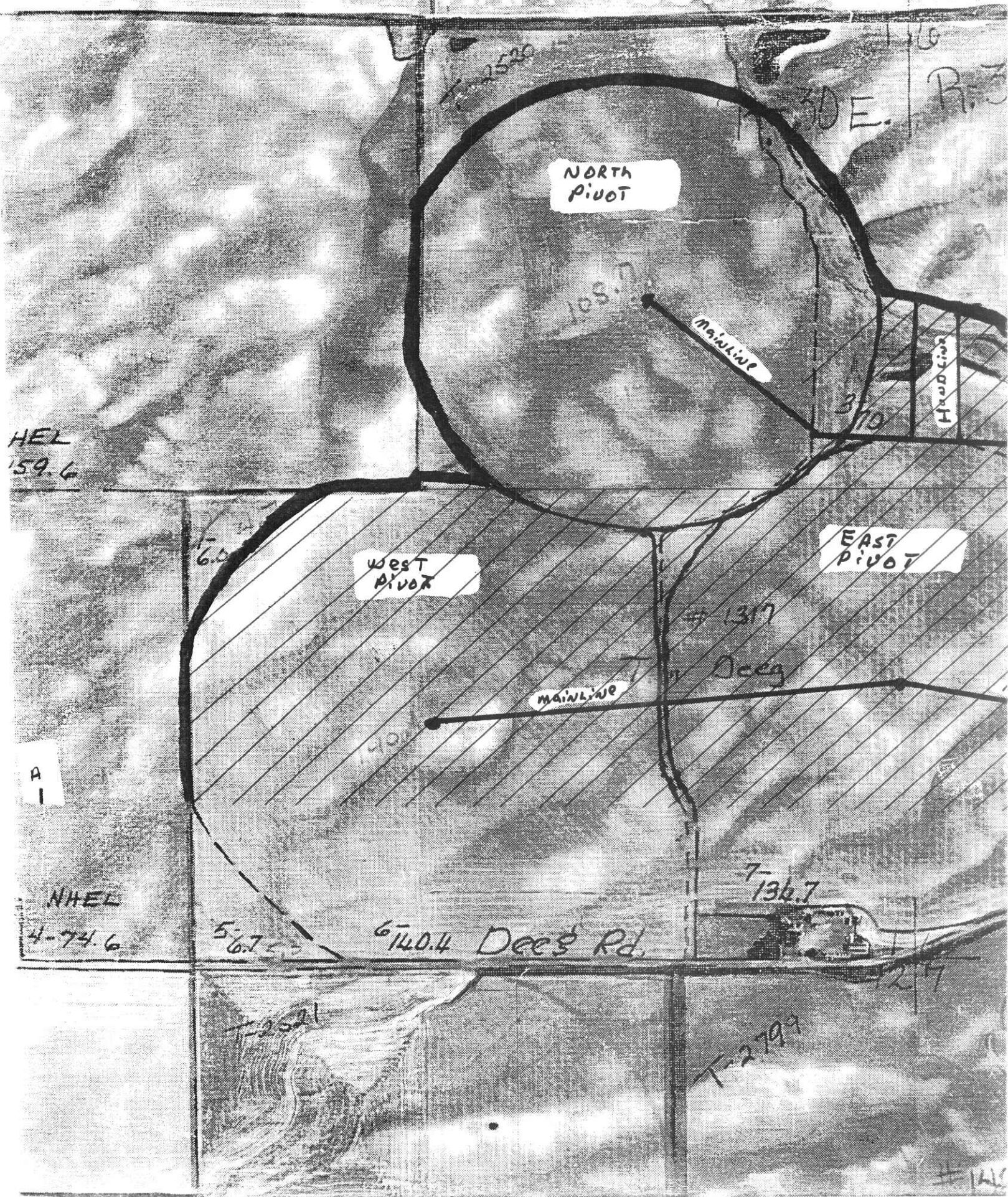
SYSTEM DIAGRAM FOR PERMIT # 41-07081

ASCS AERIAL PHOTO

1987 FLIGHT



NAPP 6077-3



NAPP 6077-3

HEL
159.6

NORTH
PIVOT

mainline

West
PIVOT

EAST
PIVOT

33Ac

39Ac

40Ac

21.5
Ac

33Ac

38.5Ac

35Ac

16Ac

NHEL

4-74.6

5-67.5

6-140.4 Deeg Rd.

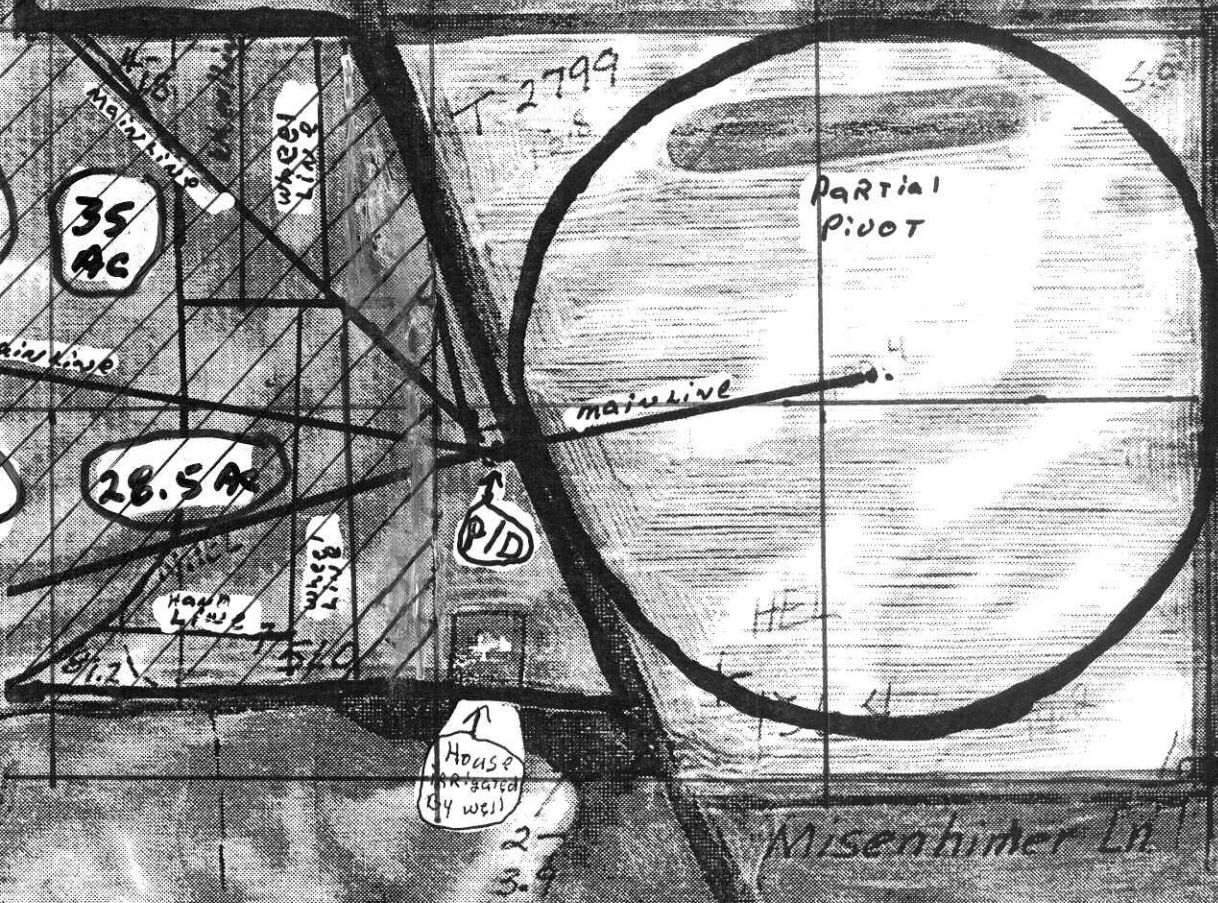
7-136.7

T-2521

T-2799

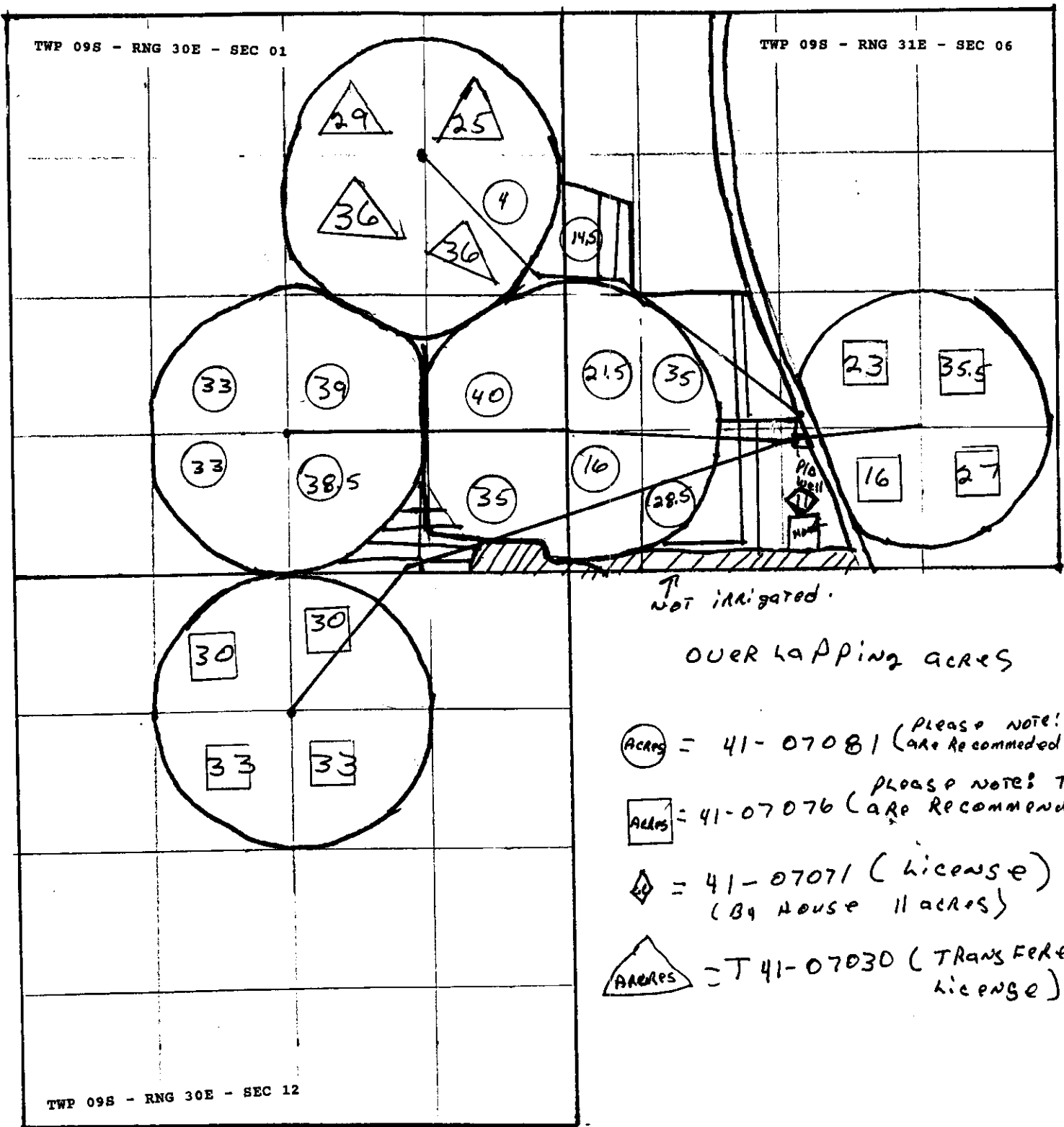
4-140

DIAGRAM OF ACRES FOR PERMIT # 41-07081
TOTAL ACRES = 338 ACRES



OVERLAPPING WATER RIGHTS

PERMIT NUMBER 41-07081



ACRES = 41-07081 (PLEASE NOTE: THESE ARE RECOMMENDED ACRES)

ACRES = 41-07076 (PLEASE NOTE: THESE ARE RECOMMENDED ACRES)

◇ = 41-07071 (LICENSE)
(BY HOUSE 11 ACRES)

△ = T 41-07030 (TRANSFERRED LICENSE)

MEMORANDUM

TO: GENERAL FILE

FROM: DANIEL A. NELSON FIELD EXAMINER

DATE: 7-23-97

SUBJECT: NEW PIVOT INSTALLATION ON PERMIT 41-07076 LAND

At the time of my initial field exam (6-23-97) for permit number 41-07076 for Timothy Deeg, Mr. Deeg was using one pivot (the South Pivot) for two fields. When I informed Mr. Deeg that he would be limited to the diversion rate of that single pivot he stated that he was under the impression that he could install two pivots in the future and operate them both for this permit. During my fowled exam at this time I measured the South Pivot without the end gun operating. I agreed to return to Mr. Deeg's and remeasure the South Pivot while the end gun was in use. I also agreed to measure the entire system again to ensure that I had attained maximum capacity of the well on 7-17-97.

Upon returning to Mr. Deeg's on 7-17-97 I discovered that Mr. Deeg had installed a new pivot on the area marked Partial Pivot. I measured this pivot with the end gun operating. The measurement for this pivot was 1.57 cfs (see attached sheet).

At the time Beneficial Use was filed Mr. Deeg was only using one pivot for the lands described under permit # 41-07076. Therefore, I did not include the new pivot in the diversion rate or the annual volume for this permit and recommended that the permit be licensed under the diversion rate of the South Pivot. According to Shelly King (State Office) and Allen Merritt (Southern Office Manager), Mr. Deeg can install this pivot but should be limited to diversion rate and volume of the South Pivot.

I have attached to this memo the amount of water diverted through this pivot with the end gun on and a map showing where the new pivot was installed. I have also included pictures of the new pivot.

MEMORANDUM

TO: GENERAL FILE

FROM: DANIEL A. NELSON FIELD EXAMINER

DATE: 7-23-97

SUBJECT: REMEASUREMENT SYSTEM CAPACITY FOR PERMIT NUMBER'S
41-07076 AND 41-07081

Mr. Deeg called our office and claimed that the measurements that were taken during the original field exam were not the maximum amount the system could produce. I had to go back to Mr. Deeg's on 7-17-97 to remeasure the South Pivot. The South Pivot was measured without the end gun operating and permit # 41-07076's diversion and annual volume rates were going to be based on the water usage of that pivot. Therefore, while I was Mr. Deeg's measuring the South Pivot I also measured the system capacity again. The following numbers show the measurements taken on 7-17-97:

New Pivot w/o end gun	1.14 cfs
South Pivot w/o end gun	1.74 cfs
West Pivot w/o end gun	2.05 cfs
<u>East Pivot w/o end gun</u>	<u>1.64 cfs</u>
System Capacity	6.57 cfs

After the second measurement I am convinced that the first measurement of 6.68 cfs was the true system capacity of the well. Therefore, I will recommend that the capacity of the well should be 6.68 cfs.

I have attached the measurements sheets and photographs of the points measured during the second measurement to this memo.

There was a question concerning the accuracy of the Polysonic measurement made on Mr. Deeg's irrigation system. Therefore, I calculated the diversion rate using the theoretical pump capacity calculation. I measured and averaged the pressure at the pivots which would be lower than the pressure at the pumps, due to friction losses and factor favorably for Mr. Deeg. The average psi was calculated as follows:

North Pivot	=	66	psi
South Pivot	=	82	psi
East Pivot	=	43.5	psi
West Pivot	=	65	psi
Total	=	256.5	psi

$256.5 \text{ psi} / 4 = 64.1 \text{ average psi}$

I also used the static water level of the well for the lift. Like the psi readings this water level does not show the drawn down effect (dynamic pumping level) of the well and would also be in favor of Mr. Deeg.

I used the following formula to determine the rate of flow:

$$Q = \frac{(8.8) \times (\text{H.P.}) \times (\text{EFF.})}{(\text{LIFT}) + (\text{PSI} \times 2.31)}$$

ASSUMPTION: 70% efficiency is a standard IDWR factor, the actual efficiency would probably be different dependent upon wear & tear, quality of design, installation, and other factors.

The following is my theoretical calculation of Mr. Deeg's Well:

$$Q = \frac{(8.8) \times (500 \text{ Hp well} + 150 \text{ Hp booster}) \times (0.70)}{(452) + (64.1 \text{ psi} \times 2.31)} =$$

$$Q = \frac{4004}{600.07} \Rightarrow Q = 6.67 \text{ cfs}$$

CONCLUSION:

The polysonic measurement of the Mr. Deeg's system (6.68 cfs) is very close to the theoretical calculation. Therefore, I believe that the polysonic measurement correct and representative of the system capacity at the time of measurement.

PEAK FLOW METER READINGS

PERMIT #: 41-07081 AND 41-07076

NORTH PIVOT

FIRST SET OF INFORMATION:

SET - UP IMPUTE DATA USED DURING
PREPARATION FOR FLOW MEASUREMENTS

SECOND SET OF INFORMATION:

THESE ARE THE READINGS TAKEN FOR
THE WELL.

FLOWS IN GALLONS PER MINUTE (GPM)

667.17
+ 650.10
+ 632.76
+ 639.25
+ 655.05
+ 656.32
+ 663.80
4564.45

4564.45 / 7 = 652.06 GPM

652.06 / 448.8 = 1.45 CFS

266 PN
Flow = 548.19 GPM
Pipe O.D.
8.020 inches
Pipe Wall Thickness
0.015 inches
Pipe Material
*ALUMINUM
Fluid Type
*WATER
Transducer Type
*Standard Hi Temp
Flow = 649.97 GPM
Flow = 664.67 GPM

Date and Time
6/23/97 13:06:51

Flow = 664.99 GPM
SigStr = 100.0%
Margin = 112%
Pipe O.D.
8.020 inches
Pipe Wall Thickness
0.015 inches
Pipe Material
*ALUMINUM
Fluid Type
*WATER
Transducer Type
*Standard Hi Temp
Flow = 654.07 GPM
9999
9999

5.89 inches

SigStr = 100.0%
Margin = 107%
Flow = 663.02 GPM
Print Interval
60 sec
Flow = 667.17 GPM
Flow = 650.10 GPM
Flow = 632.76 GPM
Flow = 639.25 GPM
Flow = 655.05 GPM
Net 0 x0.16al

SigStr = 100.0%
Margin = 110%

Flow = 656.32 GPM
Flow = 663.80 GPM
Flow = 671.60 GPM

POLYSONIC READINGS

PERMIT #: 41-07081 AND 41-07076

SOUTH PIVOT

FIRST SET OF INFORMATION:

SET - UP IMPUTE DATA USED DURING
PREPARATION FOR FLOW MEASUREMENTS

SECOND SET OF INFORMATION:

THESE ARE THE READINGS TAKEN FOR
THE WELL.

FLOWS IN GALLONS PER MINUTE (GPM)

AVERAGE GALLONS PER MINUTE

786 GALLONS PER MINUTE

786 / 448.8 = 1.75 CFS

12:10+783.798E 00GPM 00R
+00000 *10 G 00R
-00000 *10 G 00R

12:11+789.874E 00GPM 00R
+00077 *10 G 00R
-00000 *10 G 00R

12:12+791.459E 00GPM 00R
+00157 *10 G 00R
-00000 *10 G 00R

12:13+785.911E 00GPM 00R
+00236 *10 G 00R
-00000 *10 G 00R

12:14+785.911E 00GPM 00R
+00313 *10 G 00R
-00000 *10 G 00R

12:15+783.270E 00GPM 00R
+00391 *10 G 00R
-00000 *10 G 00R

12:16+789.874E 00GPM 00R
+00470 *10 G 00R
-00000 *10 G 00R

12:17+789.874E 00GPM 00R
+00551 *10 G 00R
-00000 *10 G 00R

12:18+789.346E 00GPM 00R
+00628 *10 G 00R
-00000 *10 G 00R

12:19+786.968E 00GPM 00R
+00708 *10 G 00R
-00000 *10 G 00R

12:20+783.798E 00GPM 00R
+00786 *10 G 00R
-00000 *10 G 00R

MODE SELECT *Pivot*
INPUT *P =*

OUTER DIAMETER
8.0201 IN

PIPE MATERIAL
? AL-DI

PIPE MATERIAL
? AL-DI

WALL THICKNESS
0.0150 IN

INNER LINING
? NO LING.

KIND OF FLUID
? WATER

SENSOR MOUNTING
? U

TYPE OF SENSOR
? SMALL

SPACING
5.657 IN U

ZERO MODE
CLEAR

06-23 12:0900 *R
+003.00 % AI2

MODE SELECT
TO CHECK

0292.8 MMSEC
098.07 % TO

*Second set
of information*

*1st
set
of
information*

POLYSONIC READINGS

PERMIT #: 41-07081 AND 41-07076

EAST PIVOT

FIRST SET OF INFORMATION:

SET - UP IMPUTE DATA USED DURING
PREPARATION FOR FLOW MEASUREMENTS

SECOND SET OF INFORMATION:

THESE ARE THE READINGS TAKEN FOR
THE WELL.

FLOWS IN GALLONS PER MINUTE (GPM)

AVERAGE GALLONS PER MINUTE

753 GALLONS PER MINUTE

753 / 448.8 = 1.68 CFS

SECOND SET OF
INFORMATION →

MODE SELECT
INPUT

OUTER DIAMETER
8.0201 IN

PIPE MATERIAL
? AL-DI

WALL THICKNESS
0.1460 IN

INNER LINING
? NO LING.

KIND OF FLUID
? WATER

SENSOR MOUNTING
? U

TYPE OF SENSOR
? SMALL

SPACING
5.783 IN U

ZERO MODE
CLEAR

ZERO MODE
AUT ZERO

06-23 13:0800 *R
+754.211E 06PM

06-23 13:0800 *R
+003.00 % AID

MODE SELECT
TO CHECK

0291.2 MMSEC
100.36 % TO

17:10+760.551E 06PM 00R
+00000 *10 G 00R
-00000 *10 G 00R

17:11+751.833E 06PM 00R
+00075 *10 G 00R
-00000 *10 G 00R

17:12+757.645E 06PM 00R
+00150 *10 G 00R
-00000 *10 G 00R

17:13+757.645E 06PM 00R
+00225 *10 G 00R
-00000 *10 G 00R

17:14+762.400E 06PM 00R
+00302 *10 G 00R
-00000 *10 G 00R

17:15+751.305E 06PM 00R
+00377 *10 G 00R
-00000 *10 G 00R

17:16+755.268E 06PM 00R
+00452 *10 G 00R
-00000 *10 G 00R

17:17+758.173E 06PM 00R
+00526 *10 G 00R
-00000 *10 G 00R

17:18+750.512E 06PM 00R
+00603 *10 G 00R
-00000 *10 G 00R

17:19+751.041E 06PM 00R
+00676 *10 G 00R
-00000 *10 G 00R

17:20+756.324E 06PM 00R
+00753 *10 G 00R
-00000 *10 G 00R

POLYSONIC READINGS

PERMIT #: 41-07081 AND 41-07076

WEST PIVOT

FIRST SET OF INFORMATION:

SET - UP IMPUTE DATA USED DURING
PREPARATION FOR FLOW MEASUREMENTS

SECOND SET OF INFORMATION:

THESE ARE THE READINGS TAKEN FOR
THE WELL.

FLOWS IN GALLONS PER MINUTE (GPM)

AVERAGE GALLONS PER MINUTE

809 GALLONS PER MINUTE

809 / 448.8 = 1.80 CFS

*Second
Set of Information* →

11:23+816.027E 06PM 00R
+00000 *10 G 00R
-00000 *10 G 00R
11:24+808.366E 06PM 00R
+00081 *10 G 00R
-00000 *10 G 00R
11:25+809.951E 06PM 00R
+00161 *10 G 00R
-00000 *10 G 00R
11:26+795.158E 06PM 00R
+00240 *10 G 00R
-00000 *10 G 00R
11:27+806.781E 06PM 00R
+00322 *10 G 00R
-00000 *10 G 00R
11:28+810.480E 06PM 00R
+00403 *10 G 00R
-00000 *10 G 00R
11:29+830.557E 06PM 00R
+00484 *10 G 00R
-00000 *10 G 00R
11:30+805.989E 06PM 00R
+00568 *10 G 00R
-00000 *10 G 00R
11:31+807.838E 06PM 00R
+00649 *10 G 00R
-00000 *10 G 00R
11:32+813.121E 06PM 00R
+00730 *10 G 00R
-00000 *10 G 00R
11:33+806.517E 06PM 00R
+00809 *10 G 00R
-00000 *10 G 00R

PIVOT #1
MODE SELECT INPUT

OUTER DIAMETER
8.0200 IN

PIPE MATERIAL
AL.DI

WALL THICKNESS
0.0150 IN

INNER LINING
NO LING.

KIND OF FLUID
WATER

SENSOR MOUNTING
U

TYPE OF SENSOR
SMALL

SPACING
5.657 IN U

ZERO MODE
AUT ZERO

06-23 11:1800 *R
+801.233E 06PM

06-23 11:1800 *R
+003.00 % AI2

MODE SELECT
TO CHECK

0293.1 MMSEC
098.17 % TO

POLYSONIC METER READINGS FOR NEW PIVOT:

PERMIT #: 41-07076 AND 41-07081.

NEW PIVOT WITH END GUN:

FIRST SET OF INFORMATION:

SET - UP IMPUTE DATA USED DURING
PREPARATION FOR FLOW MEASUREMENTS

SECOND SET OF INFORMATION:

THESE ARE THE READINGS TAKEN FOR
THE MEASUREMENT.

FLOWS IN GALLONS PER MINUTE (GPM)

FLOW READINGS AVERAGE = 704 gpm

$$704 \text{ gpm} / 448.8 = 1.57 \text{ cfs}$$

10:28+709.302E 06PM	00R
+00000 *10 G	00R
-00000 *10 G	00R
10:29+702.697E 06PM	00R
+00069 *10 G	00R
-00000 *10 G	00R
10:30+707.452E 06PM	00R
+00140 *10 G	00R
-00000 *10 G	00R
10:31+707.452E 06PM	00R
+00210 *10 G	00R
-00000 *10 G	00R
10:32+710.358E 06PM	00R
+00282 *10 G	00R
-00000 *10 G	00R
10:33+709.830E 06PM	00R
+00353 *10 G	00R
-00000 *10 G	00R
10:34+703.754E 06PM	00R
+00422 *10 G	00R
-00000 *10 G	00R
10:35+701.112E 06PM	00R
+00494 *10 G	00R
-00000 *10 G	00R
10:36+701.112E 06PM	00R
+00563 *10 G	00R
-00000 *10 G	00R
10:37+699.791E 06PM	00R
+00634 *10 G	00R
-00000 *10 G	00R
10:38+701.641E 06PM	00R
+00704 *10 G	00R
-00000 *10 G	00R

MODE SELECT
INPUT

OUTER DIAMETER
8.65000 IN

PIPE MATERIAL
? CS,SS

WALL THICKNESS
0.1940 IN

KIND OF FLUID
? WATER

SENSOR MOUNTING
? U

TYPE OF SENSOR
? SMALL

SPACING
6.495 IN U

07-17 10:2400 *R
+716.434E 06PM

MODE SELECT
T0 CHECK

0309.9 MMSEC
100.39 % T0

07-17 10:2400 *R
+002.70 % A12

07-17 10:2500 *R
+709.302E 06PM

*New
Pivot
with
End
Gun*

POLYSONIC METER READINGS FOR SECOND MEASUREMENT:

PERMIT #: 41-07076 AND 41-07081.

EAST PIVOT WITHOUT END GUN:

FIRST SET OF INFORMATION:

SET - UP IMPUTE DATA USED DURING
PREPARATION FOR FLOW MEASUREMENTS

SECOND SET OF INFORMATION:

THESE ARE THE READINGS TAKEN FOR
THE MEASUREMENT.

FLows IN GALLONS PER MINUTE (GPM)

FLOW READINGS AVERAGE = 735 gpm

735 gpm / 448.8 = 1.64 cfs

13:40+739.417E	00PM	00R
+00000 *10 G		00R
-00000 *10 G		00R
13:41+738.625E	00PM	00R
+00072 *10 G		00R
-00000 *10 G		00R
13:42+738.096E	00PM	00R
+00145 *10 G		00R
-00000 *10 G		00R
13:43+734.662E	00PM	00R
+00220 *10 G		00R
-00000 *10 G		00R
13:44+733.077E	00PM	00R
+00294 *10 G		00R
-00000 *10 G		00R
13:45+735.190E	00PM	00R
+00367 *10 G		00R
-00000 *10 G		00R
13:46+738.625E	00PM	00R
+00440 *10 G		00R
-00000 *10 G		00R
13:47+738.625E	00PM	00R
+00514 *10 G		00R
-00000 *10 G		00R
13:48+734.662E	00PM	00R
+00588 *10 G		00R
-00000 *10 G		00R
13:49+734.134E	00PM	00R
+00662 *10 G		00R
-00000 *10 G		00R
13:50+735.983E	00PM	00R
+00735 *10 G		00R
-00000 *10 G		00R

MODE SELECT
INPUT

OUTER DIAMETER
8.0201 IN

PIPE MATERIAL
? CS,SS

WALL THICKNESS
0.1180 IN

KIND OF FLUID
? WATER

SENSOR MOUNTING
? U

TYPE OF SENSOR
? SMALL

SPACING
5.831 IN U

MODE SELECT
TO CHECK

0292.3 MMSEC
100.51 % TO

07-17 13:3200 *H
+003.00 % AI2

07-17 13:3800 *R
+003.00 % AI2

0292.3 MMSEC
100.50 % TO

East
Pivot

POLYSONIC METER READINGS FOR SECOND MEASUREMENT:

PERMIT #: 41-07076 AND 41-07081.

WEST PIVOT WITHOUT END GUN:

FIRST SET OF INFORMATION:

SET - UP IMPUTE DATA USED DURING
PREPARATION FOR FLOW MEASUREMENTS

SECOND SET OF INFORMATION:

THESE ARE THE READINGS TAKEN FOR
THE MEASUREMENT.

FLows IN GALLONS PER MINUTE (GPM)

FLOW READINGS AVERAGE = 919 gpm

919 gpm / 448.8 = 2.05 cfs

12:56+928.638E 06PM 00R
+00000 *10 G 00R
-00000 *10 G 00R

12:57+922.488E 06PM 00R
+00000 *10 G 00R
-00000 *10 G 00R

12:58+924.338E 06PM 00R
+00183 *10 G 00R
-00000 *10 G 00R

12:59+924.338E 06PM 00R
+00277 *10 G 00R
-00000 *10 G 00R

13:00+920.111E 06PM 00R
+00369 *10 G 00R
-00000 *10 G 00R

13:01+919.583E 06PM 00R
+00461 *10 G 00R
-00000 *10 G 00R

13:02+920.903E 06PM 00R
+00553 *10 G 00R
-00000 *10 G 00R

13:03+921.432E 06PM 00R
+00645 *10 G 00R
-00000 *10 G 00R

13:04+923.545E 06PM 00R
+00737 *10 G 00R
-00000 *10 G 00R

13:05+924.866E 06PM 00R
+00828 *10 G 00R
-00000 *10 G 00R

13:06+925.394E 06PM 00R
+00919 *10 G 00R
-00000 *10 G 00R

MODE SELECT
INPUT

OUTER DIAMETER
8.0201 IN

PIPE MATERIAL
? CS-88

WALL THICKNESS
0.1170 IN

KIND OF FLUID
? WATER

SENSOR MOUNTING
? U

TYPE OF SENSOR
? SMALL

SPACING
5.830 IN U

MODE SELECT
TO CHECK

0291.6 MMSEC
100.23 % T0

07-17 12:5500 *R
+003.00 % A12

POLYSONIC METER READINGS FOR SECOND MEASUREMENT:

PERMIT #: 41-07076 AND 41-07081.

SOUTH PIVOT WITHOUT END GUN:

FIRST SET OF INFORMATION:

SET - UP IMPUTE DATA USED DURING
PREPARATION FOR FLOW MEASUREMENTS

SECOND SET OF INFORMATION:

THESE ARE THE READINGS TAKEN FOR
THE MEASUREMENT.

FLows IN GALLONS PER MINUTE (GPM)

FLOW READINGS AVERAGE = 784 gpm

784 gpm / 448.8 = 1.74 cfs

MODE SELECT
INPUT

OUTER DIAMETER
8.0200 IN

PIPE MATERIAL
CS-30

WALL THICKNESS
0.1170 IN

KIND OF FLUID
WATER

SENSOR MOUNTING
U

TYPE OF SENSOR
SMALL

SPACING
5.824 IN

07-17 12:0000 *R
+802.819E 00GPM

12:05+787.761E 00GPM 00R
+00000 *10 G 00R
-00000 *10 G 00R

12:06+789.610E 00GPM 00R
+00076 *10 G 00R
-00000 *10 G 00R

12:07+792.780E 00GPM 00R
+00155 *10 G 00R
-00000 *10 G 00R

12:08+783.798E 00GPM 00R
+00234 *10 G 00R
-00000 *10 G 00R

12:09+788.364E 00GPM 00R
+00312 *10 G 00R
-00000 *10 G 00R

12:10+789.346E 00GPM 00R
+00390 *10 G 00R
-00000 *10 G 00R

12:11+789.610E 00GPM 00R
+00469 *10 G 00R
-00000 *10 G 00R

12:12+792.780E 00GPM 00R
+00548 *10 G 00R
-00000 *10 G 00R

12:13+785.383E 00GPM 00R
+00628 *10 G 00R
-00000 *10 G 00R

12:14+788.364E 00GPM 00R
+00706 *10 G 00R
-00000 *10 G 00R

12:15+786.440E 00GPM 00R
+00784 *10 G 00R
-00000 *10 G 00R

MODE SELECT
INPUT

MODE SELECT
TO CH

0200.6 MMSEC
009.78 % TS

07-17 11:0200
+003.00 W 41

POLYSONIC METER READINGS FOR SECOND MEASUREMENT:

PERMIT #: 41-07076 AND 41-07081.

NEW PIVOT WITHOUT END GUN:

FIRST SET OF INFORMATION:

SET - UP IMPUTE DATA USED DURING
PREPARATION FOR FLOW MEASUREMENTS

SECOND SET OF INFORMATION:

THESE ARE THE READINGS TAKEN FOR
THE MEASUREMENT.

FLows IN GALLONS PER MINUTE (GPM)

FLOW READINGS AVERAGE = 510 gpm

510 gpm / 448.8 = 1.14 cfs

MODE SELECT
MODE SELECT
INPUT

OUTER DIAMETER
8.6500 IN

PIPE MATERIAL
? 08.38

WALL THICKNESS
0.1940 IN

KIND OF FLUID
? WATER

SENSOR MOUNTING
? U

TYPE OF SENSOR
? SMALL

SPACING
8.495 IN U

14:15+516.192E 06PM 00F
+00000 *10 G 00F
-00000 *10 G 00F

14:16+512.493E 06PM 00F
+00051 *10 G 00F
-00000 *10 G 00F

14:17+508.002E 06PM 00F
+00100 *10 G 00F
-00000 *10 G 00F

14:18+504.832E 06PM 00F
+00152 *10 G 00F
-00000 *10 G 00F

14:19+510.116E 06PM 00F
+00202 *10 G 00F
-00000 *10 G 00F

14:20+510.116E 06PM 00F
+00254 *10 G 00F
-00000 *10 G 00F

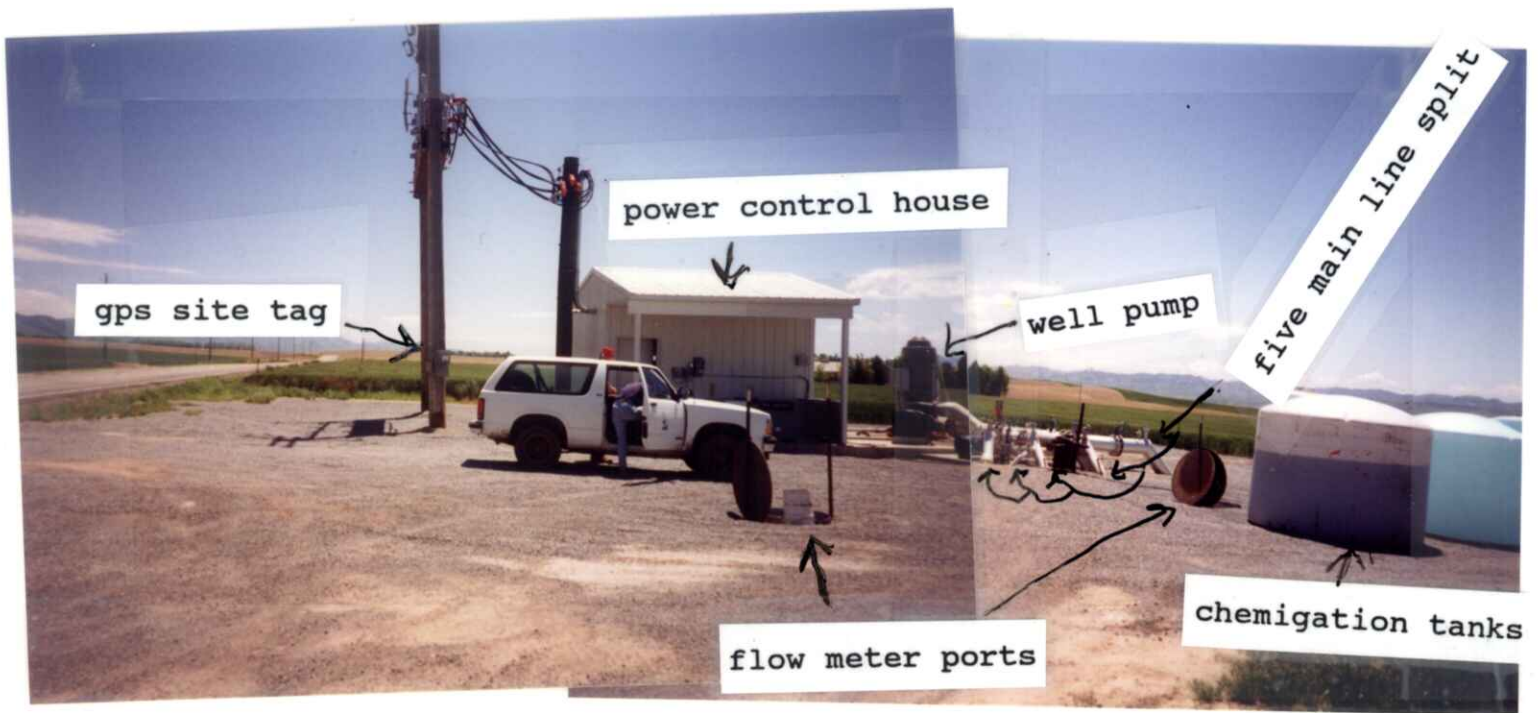
14:21+510.116E 06PM 00F
+00305 *10 G 00F
-00000 *10 G 00F

14:22+514.607E 06PM 00F
+00356 *10 G 00F
-00000 *10 G 00F

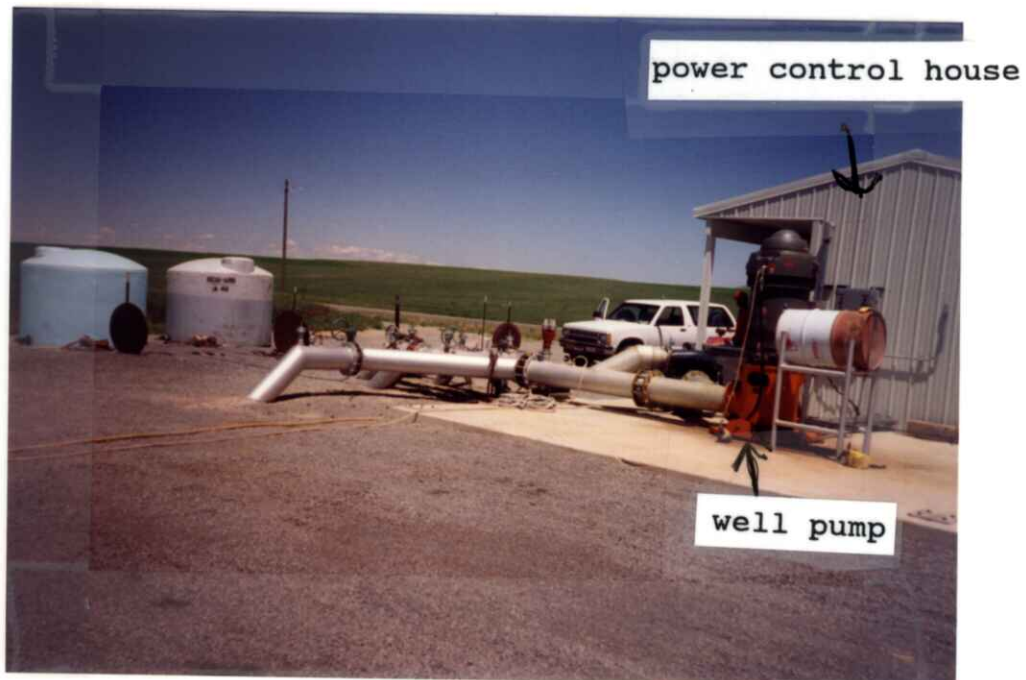
14:23+514.078E 06PM 00F
+00407 *10 G 00F
-00000 *10 G 00F

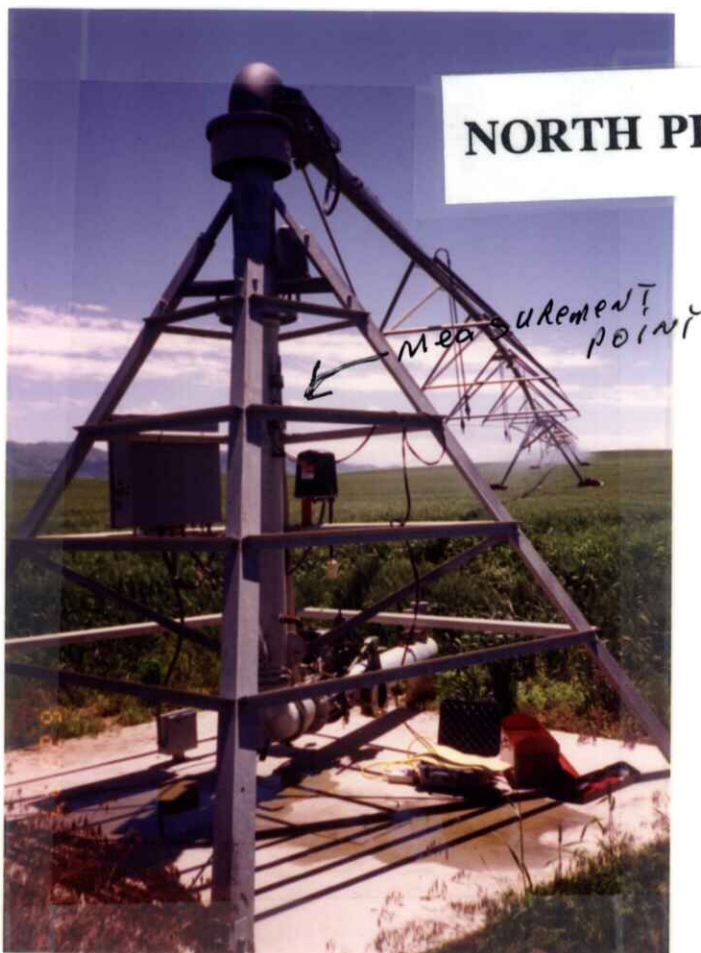
14:24+509.059E 06PM 00F
+00457 *10 G 00F
-00000 *10 G 00F

14:25+511.961E 06PM 00F
+00510 *10 G 00F
-00000 *10 G 00F



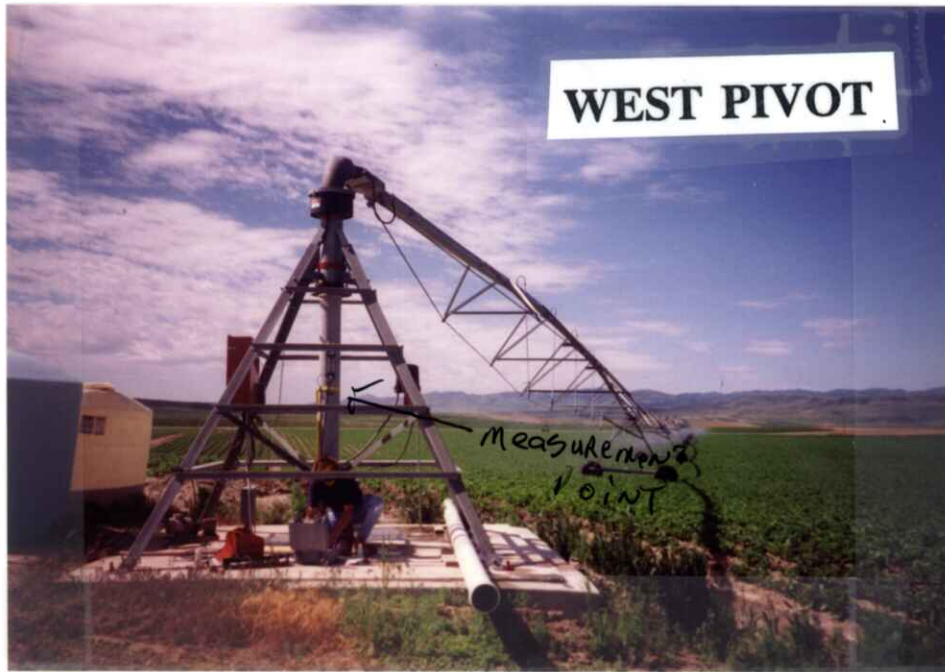
Both the above and below pictures are of the point of diversion. These pictures show the two booster pumps and the five mainlines that come off of the well.

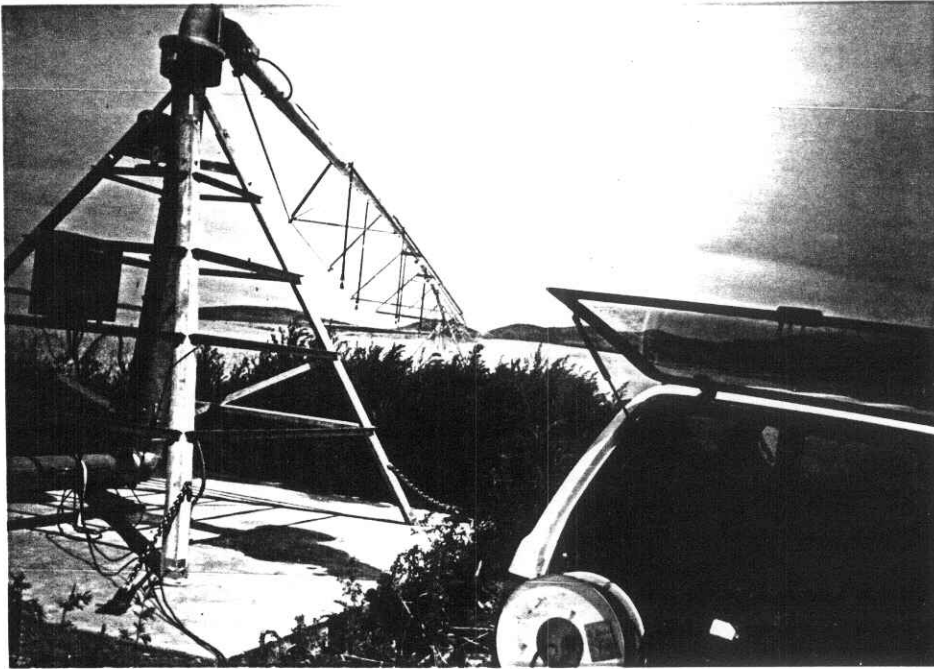




Please note:

ALL MEASUREMENTS
WERE TAKEN ON
STAND PIPES OF
THE PIVOTS





This is a picture of the
New Pivot That was installed
Between the Original Exam and second
measurement.

