WD 13 T 2000

Memorandum

To: Norm Young

From: Tim Luke TJL

Date: October 11, 2000

Re: Information on Warren Lloyd Well

Attached is some different information concerning the Warren Lloyd well, located in T09S R39E Sec. 23, NENE. Attachment 1 is a proof report of Lloyd's water right, 13-02313. There are no other rights associated with this well. The right authorizes a maximum diversion rate of 3.68 cfs (1652 gpm), and an annual volume of 829.5 acre-feet.

Attachment 2a through 2d are screen shots from our Water Measurement Information System Database (WMIS) showing discharge and estimated annual volume data. Lloyd installed a flow meter on his well in 1996 which was the first year the water district was active. Mr. Lloyd told IDWR and the watermaster in 1996 that he preferred an installed meter over use of estimating withdrawals with power records because he felt his system was somewhat complicated and that flows varied too much. The meter apparently failed sometime in 1997. The meter has not been repaired or replaced. I calibrated the meter on 7/9/96. On this date, I measured discharges ranging from 1407 gpm to 1481 gpm. The actual calibration test and calibration factor was based on two sets of measurements that averaged 1476 gpm. The average flow rate during the 7/9/96 visit was about 1442 gpm. I believe the measured discharges of 7/9/96 represent maximum diversion rates from the Lloyd well since the second week of July is normally the peak demand period of the year in this area. A discharge measurement of 1254 gpm was also made on 7/3/96. No discharge measurements have been made on this well since 1996.

IDWR estimated annual withdrawals from the Lloyd well in 1997 through 1999 using power records and a derived Power Consumption Coefficient (PCC). The PCC was based on the 1996 field measurements. Note that we assigned a PCC volume qualifier of "5", meaning that the pumping system is one with multiple operating conditions where not all the conditions may have been measured. Little or no information was recorded concerning the operating conditions for the respective flow measurements in 1996 since IDWR and the water district assumed that the well would be measured using a flow meter. IDWR assumed that the two different flow measurements made in 1996 were representative of normal operating conditions, and assigned 50% weight to each flow and PCC in deriving an overall weighted PCC. Note that the estimated volumes from 1997 through 1999 are significantly lower than the adjusted metered volume reported for 1996. The lack of a more accurate PCC may be responsible for this difference. The UPL power record data does indicate significantly higher power consumption in that year although the exact Kwh reported to IDWR by UPL in that year was often erroneous due to a UPL

computer and data migration project. IDWR did not obtain separate confirmation of the Kwh consumed for this well in 1996 since the well was measured with a meter that year.

Attachment 3 is a spreadsheet showing estimated annual withdrawals for selected wells in the Basin 13 portion of the Bancroft-Lund Water District and other wells in the Bear River drainage. The spreadsheet was recently compiled as part of an IDWR investigation of water use estimates and ground water depletions in the Bear River Basin. Warren Lloyd's well and usage is highlighted on the first line of the spreadsheet (same usage as shown in attachment 2a-d). The irrigated acreage reported was confirmed using 1998 satellite imagery. It is essentially the same as the decreed irrigated acreage. The average water duty based on the PCC and meter volume estimates is 0.52 acre-feet per acre. This is a little less than the average 0.68 acre-feet per acre determined for the total wells sampled (0.62 average in Bancroft-Lund sample), but well within the standard deviation of 0.32 acre-feet per acre.

Attachment 4 is a well hydrograph of miscellaneous measurements for the Holsten Observation well through September 2000, located about one-~~quarter~~ half mile southeast of the Lloyd well. We have just received continuous recorder sheets for this season from June through September but have not yet reduced the data to a continuous hydrograph. Department staff and the water district watermaster have measured water levels in the Lloyd well since 1996. These measurements are provided in the memo prepared by Shane Bendixsen, dated September 29, 2000. Water level measurements had to be discontinued in 1999 since we could no longer get any of our measurement probes down the well. Lloyd installed a new mainline from the pump in 1999. This work resulted in the pump base being turned, which then blocked access through the measurement port.

Burke Scholer of IDWR visited with the watermaster and Warren Lloyd this year on about July 11. Burke specifically asked Mr. Lloyd if he was having any trouble with his well. Mr. Lloyd responded that he had not experienced any problem this year with his well, at least up to that time.

Recommendations:

The annual volume estimates for the Lloyd well are fair estimates of use but lack some confidence and/or accuracy. The annual use however is typical of ground water diversions in this area. Our data show that diversions in the Bancroft-Lund district are less than one-fourth of authorized volumes. Diversions used for growing turf are the only ones that I know of in the area that use significantly more water and even come close to approaching authorized water right volumes. I have observed the Lloyd well used for growing grain, ~~and~~ alfalfa and seed potatoes only.

We are long overdue in making discharge and PCC measurements at this well. Staff will perform such measurements next year. The existing flow meter should be repaired or replaced. Additionally, Lloyd should make repairs to insure that the water level access port is clear and capable of yielding depth measurements. IDWR and the water district watermaster can continue depth measurements next year if the port is cleared.

Please advise me if you need any additional information.

Attachment 1

WR5808NP
(OD-26)

IDAHO DEPARTMENT OF WATER RESOURCES
WATER RIGHT PROOF READING REPORT

10/11/00 09:22:18
Page 1

Water Right Number - 13-02313 Prefix Translation: WATER RIGHT Old (D) Number - 33237

*** C - CURRENT OWNER ***
LLOYD WARREN P
1 - 1475 MOUNTAIN RD
2 -
3 -
City- BANCROFT State- ID Zip- 832170000
Phone - 208-648-7828

Priority Date	Region	Stage	Status
09/29/1966	15 EASTERN	L - LICENSE	

Source: GROUNDWATER

Tributary:

Point of Diversion

Twn	Rng	Sec	Tract	Lot	RFlg	County	Diversion Name	Diversion Rate	Diversion No.
09S	39E	23	NE NE			(29) CARIBOU			

Water Use

Code	Description	Period From	Period To	Diversion Rate	Diversion Volume
01	IRRIGATION	04/15	10/15	3.680	829.50

Total Div. Rate	Total Div. Volume	Total Div. Capacity	Total Consumptive Use	KW Usage
3.680	829.50	3.680	0.0	

Place of Use

Twn	Rng	Sec	Tract	Lot	Acres	Code	Description	County
09S	39E	14	SE SW		28.0	01	IRRIGATION	(29) CARIBOU
09S	39E	14	SW SE		39.0	01	IRRIGATION	(29) CARIBOU
09S	39E	14	SE SE		39.0	01	IRRIGATION	(29) CARIBOU
09S	39E	23	NE NE		33.0	01	IRRIGATION	(29) CARIBOU
09S	39E	23	NW NE		39.5	01	IRRIGATION	(29) CARIBOU
09S	39E	23	NE NW		33.0	01	IRRIGATION	(29) CARIBOU
09S	39E	23	SE NW		5.5	01	IRRIGATION	(29) CARIBOU
09S	39E	23	NW SE		20.0	01	IRRIGATION	(29) CARIBOU

Total Acres: 237.0

Diversion Means -

Non-Irrigation Use -

Other Rights for Same Use -

Remarks

No Remarks found.

Water right number - 13-02313 Prefix Translation: WATER RIGHT

Old Water Right Numbers

Old Water Right Numbers

No Old Water Right Numbers found.

Conditions of Approval

R30 - This right when combined with all other rights shall provide no
- more than .02 cfs per acre nor more than 3.5 afa per acre for
- irrigation of the lands above.
T07 - The right holder shall accomplish the change authorized by this
- transfer within one (1) year of the date of this approval.
T08 - Failure of the right holder to comply with the conditions of this
- transfer is cause for the Director to rescind approval of the
- transfer.

Decree Plaintiff	Decree Defendant	Decree Date
		00/00/0000

Comments

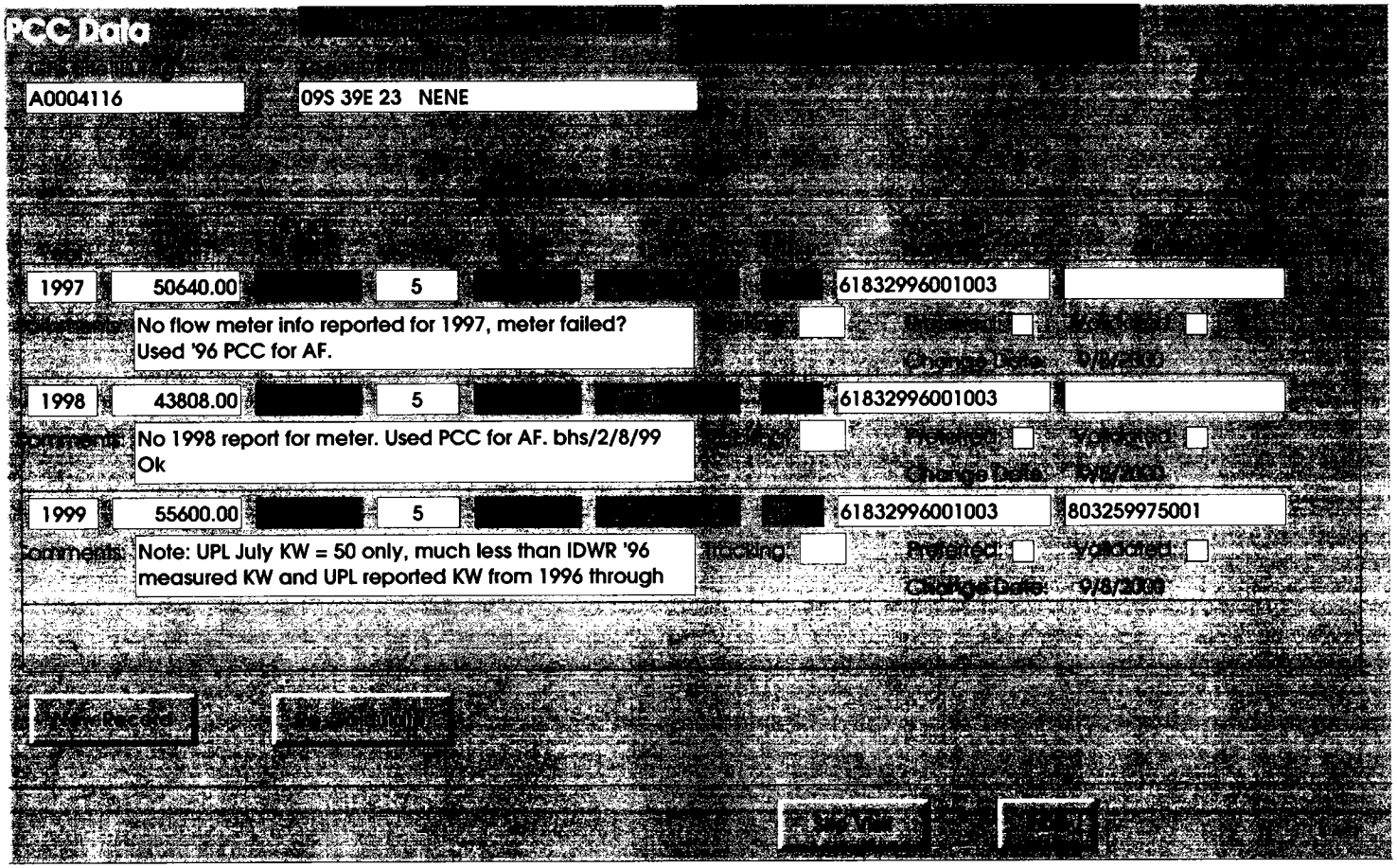
Date: 07/27/1993 User Id: SKAGGS Subject: TRANSFER NO. 4135
Transfer No. 4135 was filed to change the place of use under Right No. 13-02313.

Audit Fields - 03/10/86 05/21/88 CONVERT 07/27/93 SKAGGS 10/11/94 PSKAGGS

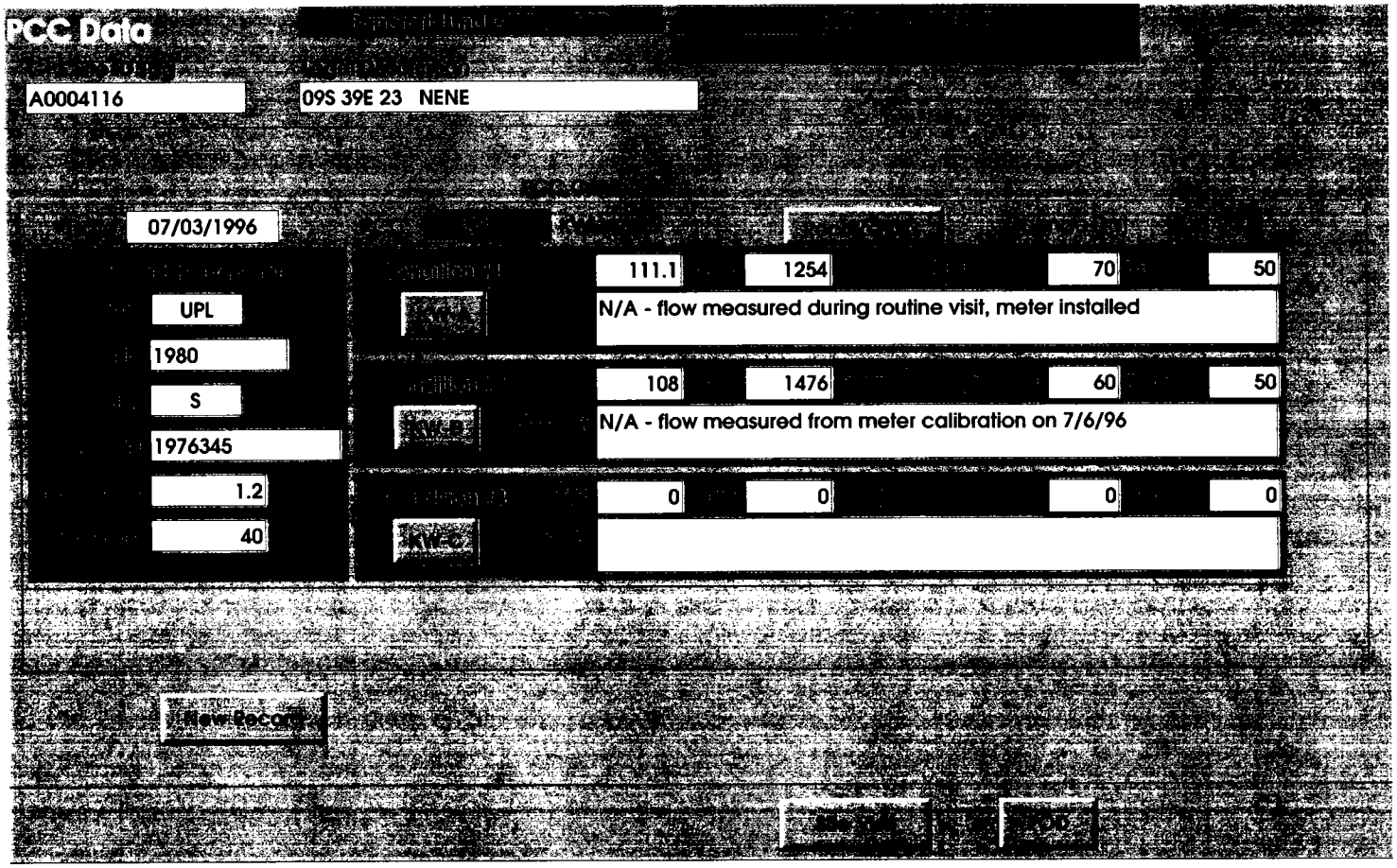
Water Rights Dates and Flags Area

Proof Due Date	- 00/00/0000	Field Exam Made	- 00/00/0000	Field Exam Fee	-
Approved/Denied	- 00/00/0000	Protested Date	- 00/00/0000	Swan Falls	-
Proof Made Date	- 00/00/0000	Hearing Date	- 00/00/0000	Temporary Right	- P
Exam to S.O. Date	- 00/00/0000	Verified Date	- 00/00/0000	DLE/Carey Act	-
Order Show Cause	- 00/00/0000	Receipt Number	- E018540	Water District	-
Licensed Date	- 12/04/1973	Appl Received	- 00/00/0000	Transfer/Amended	- D
Presumption Flag	-	Name Connector	-	POU Ownership Flag	- Y
SRBA Decreed Flag	-				

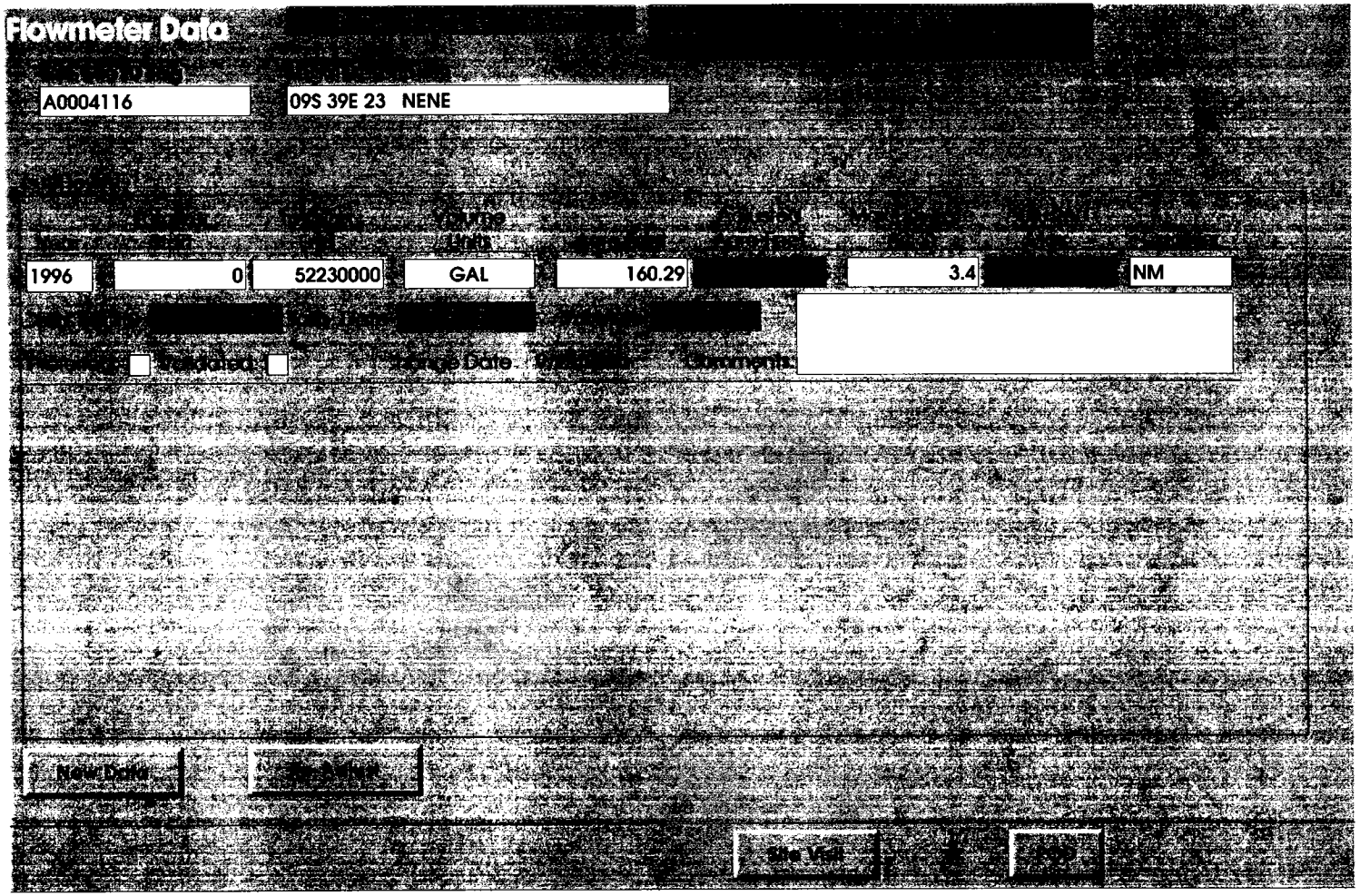
Attachment 2a



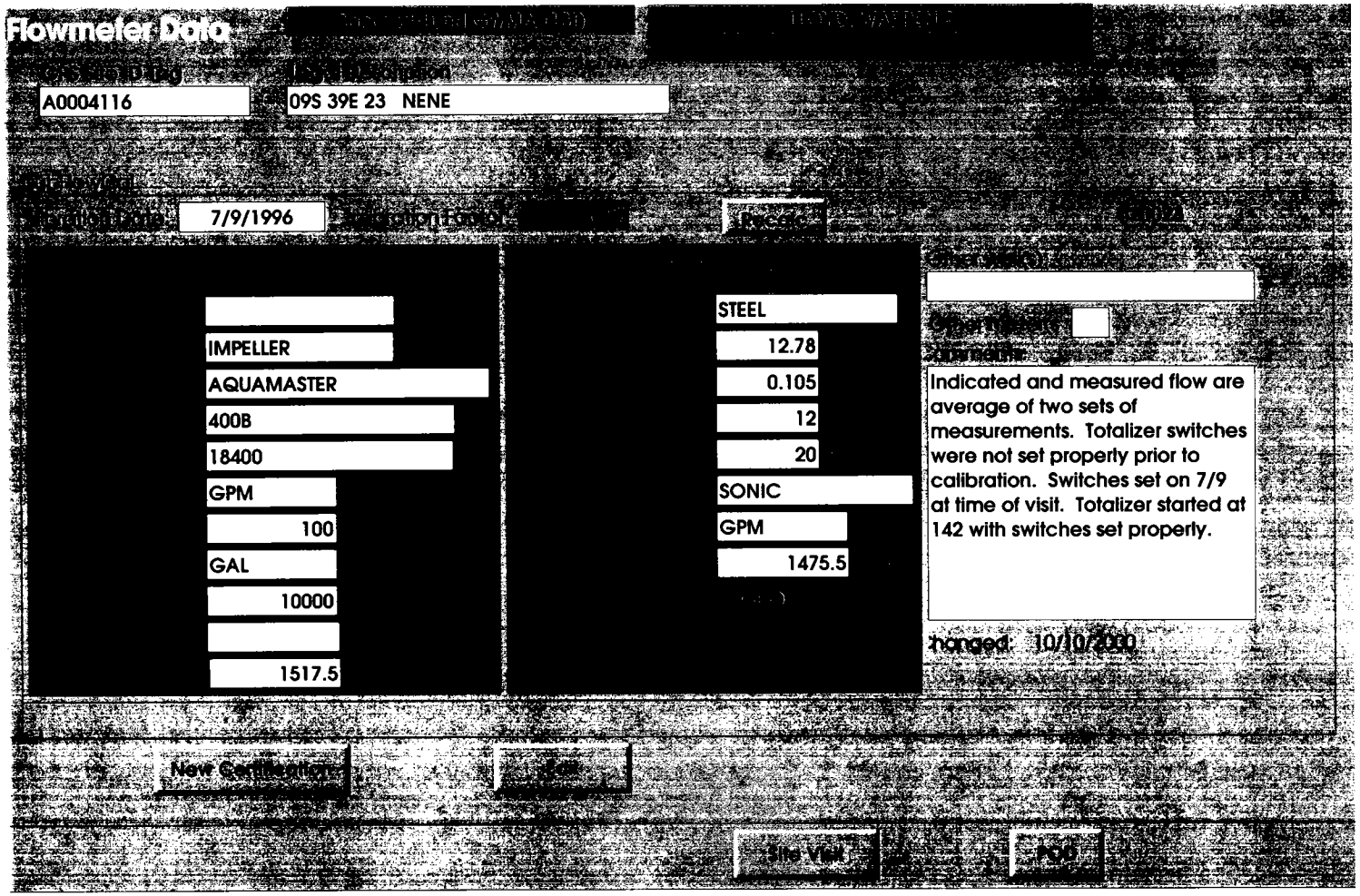
Attachment 2b



Attachment 2C



Attachment 2d



Attachment 3

Average Estimated Duty of Water Using Acreage and Power Records

Sample Irrigation Wells in Bear River Drainage

WR	Name	Diversion Name	POD	Irrigated Acres	1996 PCC ac*ft	1996 ac*ft/ac	1997 PCC ac*ft	1997 ac*ft/ac
Grace								
1302313	Lloyd, Warren P.		09S 39E 23 NENE	239.81	155.50	0.65	116.18	0.48
2902352	Gem Valley Farms	Home Place	09S 40E 18 SWSE		n/a		223.20	
1302203	Gem Valley Farms	Pauls Place	09S 40E 19 NENW	397.99	151.23	n/a	187.74	1.03
1307163	Yost, Phil	Kim Welch East	09S 40E 19 SENE	106.66	136.27	1.28	88.68	0.83
1307163	Yost, Phil	Kim Welch West	09S 40E 19 NESW	241.03	148.22	0.61	89.50	0.37
1302259	Gem Valley Farms		09S 40E 20 NENW	296.26	198.96	0.67	133.31	0.45
	Gem Valley Farms	Hansen Well	09S 40E 20 NENW					
1307165	Gem Valley Farms	Deep Well	09S 40E 20 SWSW	286.76	278.79	0.97	193.66	0.68
1307099	Christensen, Bart	Anderson Well	09S 40E 21 SESW	281.12	164.91	0.59	102.60	0.36
1302278	Lloyd, Ben & David	McNeil Place	09S 40E 22 NWNW	323.07	n/a	n/a	189.04	0.59
1302269	Christensen, Bart	Linear Pivot	09S 40E 23 SESW	240.66	138.40	0.58	115.58	0.48
1307084	Simonson, Von or Eric		09S 40E 27 SWNW	389.55	313.26	0.80	210.78	0.54
1307097	Yost, Phil	Home Well	09S 40E 28 NENE	319.19	340.64	1.07	168.63	0.53
1307147	Christensen, Bart	Hegstrom Well	09S 40E 29 NESE	236.29	172.00	0.73	122.37	0.52
1307161	Jorgensen, Carl	Jorgensen North Well	09S 40E 32 NWNW	259.21	126.92	0.49	50.17	0.19
1302198	Jorgensen, Terry	Jorgensen South Well	10S 40E 05 SENW	285.05	70.15	0.25	47.38	0.17
1302197	Jorgensen, Carl	Marvin Smith Well	10S 40E 08 NWNW	280.73	n/a	n/a	76.30	0.27
Preston								
1307173	Sorenson, Eugene	Little Well	13S 38E 04 SENW	92.02				
1302228	Hymas, Earl		13S 40E 30 SWNE	123.98				
1304122	Mumford, Ron	House	14S 38E 15 SWSW	373.38				
1307128	Mumford, Ron		14S 38E 15 NESW					
Montpelier								
1107024	Crane, Rae		11S 44E 29 SESW	189.64				
1107056	Robinson, M. Bryant		12S 44E 08 NWSW	199.52				
1107151	Daines, Paul	South Well	14S 45E 05 SESW	124.04				
1107151	Daines, Paul	Central Well	14S 45E 05 SESW	104.50				
1102111	Daines, Paul	North Well	14S 45E 05 SESW	450.31				

Bancroft-Lund Water District

Average Estimated Duty of Water Using Acreage and Power Records

Sample Irrigation Wells in Bear River Drainage

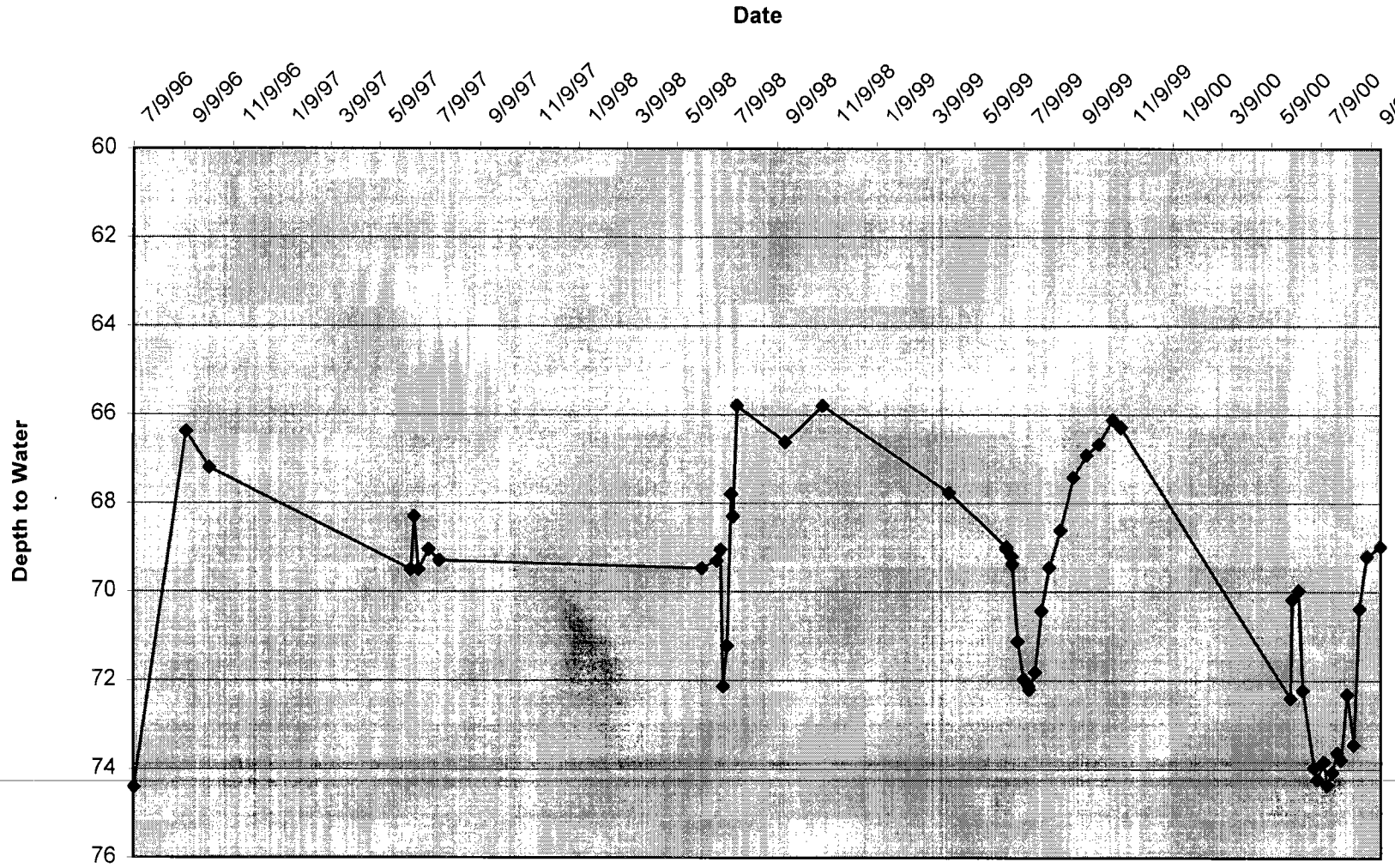
WR	1998 PCC ac*ft	1998 ac*ft/ac	1999 PCC ac*ft	1999 ac*ft/ac	Average ac*ft/ac	Notes
Grace						1996 acre*ft based on installed meter, 97-99 acre*feet
1302313	100.50	0.42	127.56	0.53	0.52	estimated with PCC. PCC not ideal for this site.
2902352	222.90		165.03			Co-mingled with WR#1302203
1302203	183.25	1.02	180.78	0.87	0.97	Co-mingled with WR#2902352, combined ac*ft/ac shown
1307163	137.45	1.29	103.27	0.97	1.09	
1307163	141.95	0.59	179.76	0.75	0.58	
1302259	164.77	0.56	128.70	0.43	0.53	2 wells on same power meter, generally 1 well used only
1307165	277.29	0.97	247.68	0.86	0.87	
1307099	149.63	0.53	142.15	0.51	0.50	
1302278	275.85	0.85	256.28	0.79	0.74	
1302269	102.06	0.42	142.49	0.59	0.52	
1307084	259.84	0.67	261.29	0.67	0.67	
1307097	154.15	0.48	257.68	0.81	0.72	
1307147	152.73	0.65	159.18	0.67	0.64	Other WR #1307099
1307161	50.67	0.20	92.77	0.36	0.31	Supplemental well
1302198	80.96	0.28	98.67	0.35	0.26	Well generally used as supplemental well
1302197	165.00	0.59	119.40	0.43	0.43	
Preston						
1307173	49.21	0.53	42.66	0.46	0.50	
1302228	211.16	1.70	140.39	1.13	1.42	
1304122	167.14	0.74	125.86	0.48	0.61	Co-mingled with WR#1307128, combined ac*ft/ac shown
1307128	107.35		52.50			Co-mingled with WR#1304122
Montpelier						
1107024	49.32	0.26	51.73	0.27	0.27	
1107056	121.19	0.61	141.23	0.71	0.66	
1107151	112.62	1.39	127.33	1.53	1.46	Co-mingled with central well, combined ac*ft/ac shown
1107151	204.64		222.52			Co-mingled with south well
1102111	316.12	0.70	350.03	0.78	0.74	

Bancroft-Lund Water District

Average = 0.68
Standard Deviation = 0.32

Attachment 4

Holsten Observation Well
Miscellaneous Measurements 1996 - 2000



Source: IDWR and Water District 13-T

T. Luke, IDWR
10/11/00