

MEMORANDUM

TO: File 65-2858B, 65-22713, 65-22725, 65-23220, 65-23221, 65-23222, 65-23223, 65-23240, 65-23241, 65-23574, 65-12842, 65-3104B, 65-3104C, 65-13606, 65-3803D, and 65-3803C

FROM: Daniel Nelson – Staff Hydrologist

DATE: July 20, 2016

SUBJECT: Review of Faull Ranch Estates Owners Association Inc. and O & D Partnership Water Rights.

During the field exam review for permit 65-23574 concerns were raised about the overlapping water rights owned by Faull Ranch Estates Owners Association Inc. (Faull Ranch) and O & D Partnership (O&D). There were numerous water rights associated with Faull Ranch and O&D that appeared to be on the same lands without any limiting conditions on the water rights. Most of these rights had been decreed, so it is important to ensure that new permits do not add water rights onto lands with existing fully allocated water rights. The only overlapping conditions addressed areas that had two water sources (Hill Creek -- Payette River and Porter Creek -- Payette River). There are no overlapping conditions on the overlapping Payette River rights except for one condition that limits water rights 65-23222, 65-23223, 65-23240, and 22241 when combined to 0.02 cfs and 4.5 af per acre. There a couple of conditions that limit the Payette River water when combined with Porter Creek or Hill Creek water.

I created a table that lists all of the water rights and the acres designated in each 40 acre tract in each water right (please see attached table). This table shows that there are several 40 acre tracts that have more than 40 acres described by the water rights. I created two maps showing the acres irrigated in 1987 with the maps used for the Snake River Basin Adjudication, and in 2015, our most recent maps. I included these acre amounts into the table. The table shows that the water rights describe a total of 385.5 acres irrigated from the Payette River and 157 acres irrigated from Hill Creek and Porter Creek. The table also shows that there were only 239.4 acres irrigated in 1987, and there are only 210.9 acres currently being irrigated.

I then created a second table rates per acre for each water right (see attached table). This table was created by dividing the diversion rate by the number of acres to get the rate per acre. All of the water rights belonging to Faull Ranch and O&D provide 0.02 cfs or an inch of water, which is the maximum amount of water allowable.

To review the overlapping water rights for permit 65-23574, I created a third table showing the number of acres owned only by Faull Ranch for the legal descriptions described in the permit, and compared the rate per acre. In this table, I also included the total acres found irrigated in 1987 and 2015. According to the third table, there is already adequate water right coverage for the 3.8 acres requested in permit 65-23574.

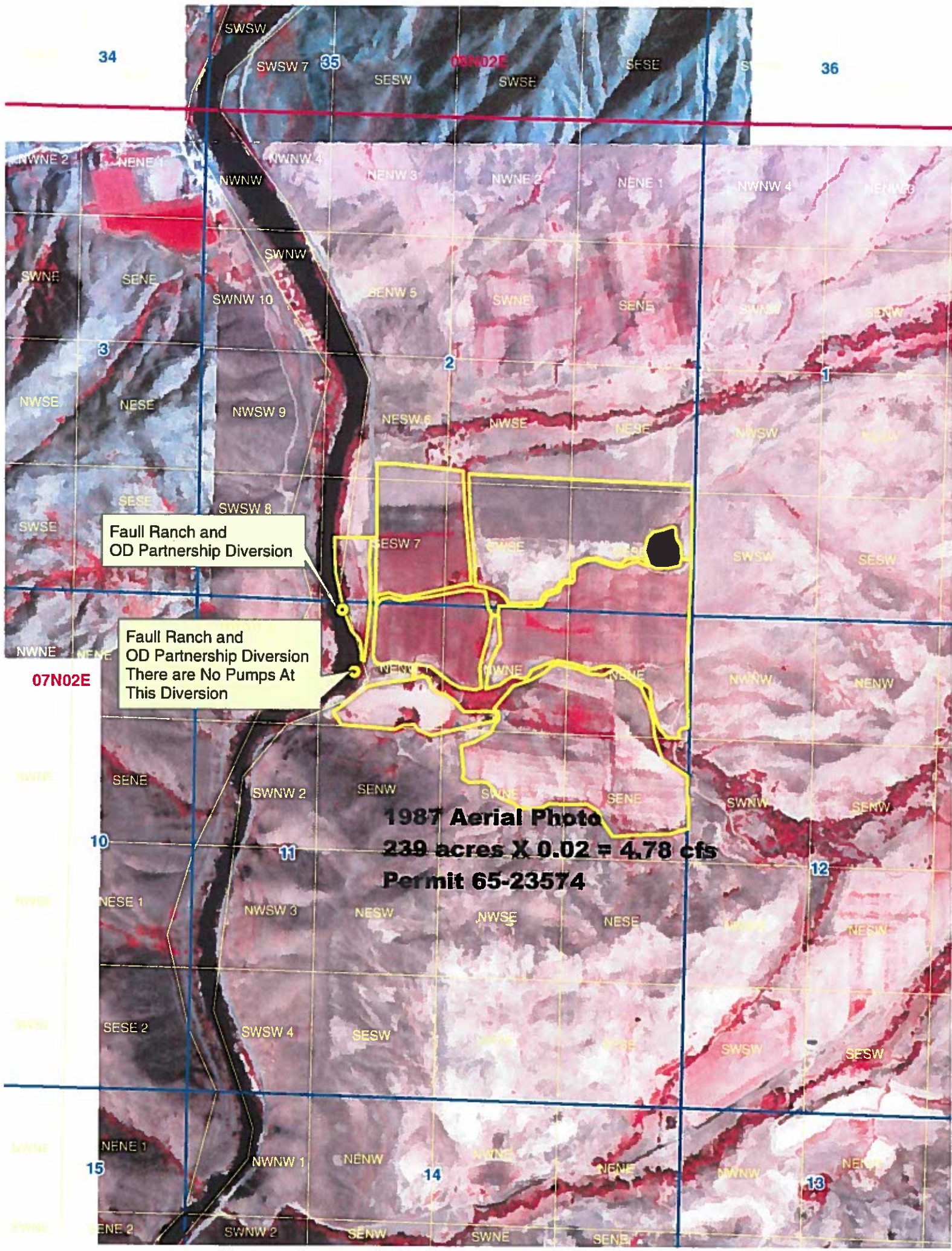
I also wanted to check to see if there was an additional increment of diversion rate developed to provide additional water to the entire system. The system currently has water rights that allow a total diversion rate of 7.75 cfs from 2 points of diversion. The southern point of diversion no longer has any pumps to divert water, and the northern point of diversion has been modified to supply all the water needed for this system. The southern point of diversion is designed so that two jockey pumps divert water into a vault. The water in the vault is re-lifted by a combination of 3 pumps. All three pumps cannot operate at the same time, since the system is limited by the amount of water the jockey pumps can deliver to the vault. Please see the attached system diagram and pictures.

I and Steve Visosky measured the water being diverted to the vault through the two jockey pumps simultaneously to get a maximum diversion rate. We measured a total of 3.30 cfs being delivered to the vault by the jockey pumps. In the beginning of the measurement, the vault was slowly being drawn down by the 100 Hp pump, so there is no doubt that the re-lift pumps can divert more water than the jockey pumps can supply. Permit 65-23574 does not supply any additional water to the entire system.

Therefore, I am recommending that 65-23574 be voided unless Faull Ranch can provide evidence that an additional beneficial use has been developed within this irrigation system.

It should also be noted that any future applications, permit licensing, transfers, or changes of ownership should take into account that the lands irrigated out of this system have only irrigated a maximum of 239.4 acres, and the current capacity of the system should not exceed 3.30 cfs. Any administrative action on these water rights should include conditions that limit the combined use of these water rights to their historic use and system capacities.

A copy of this memo will be placed in each of the files listed above.



Fault Ranch and
OD Partnership Diversion

Fault Ranch and
OD Partnership Diversion
There are No Pumps At
This Diversion

1987 Aerial Photo
239 acres X 0.02 = 4.78 cfs
Permit 65-23574

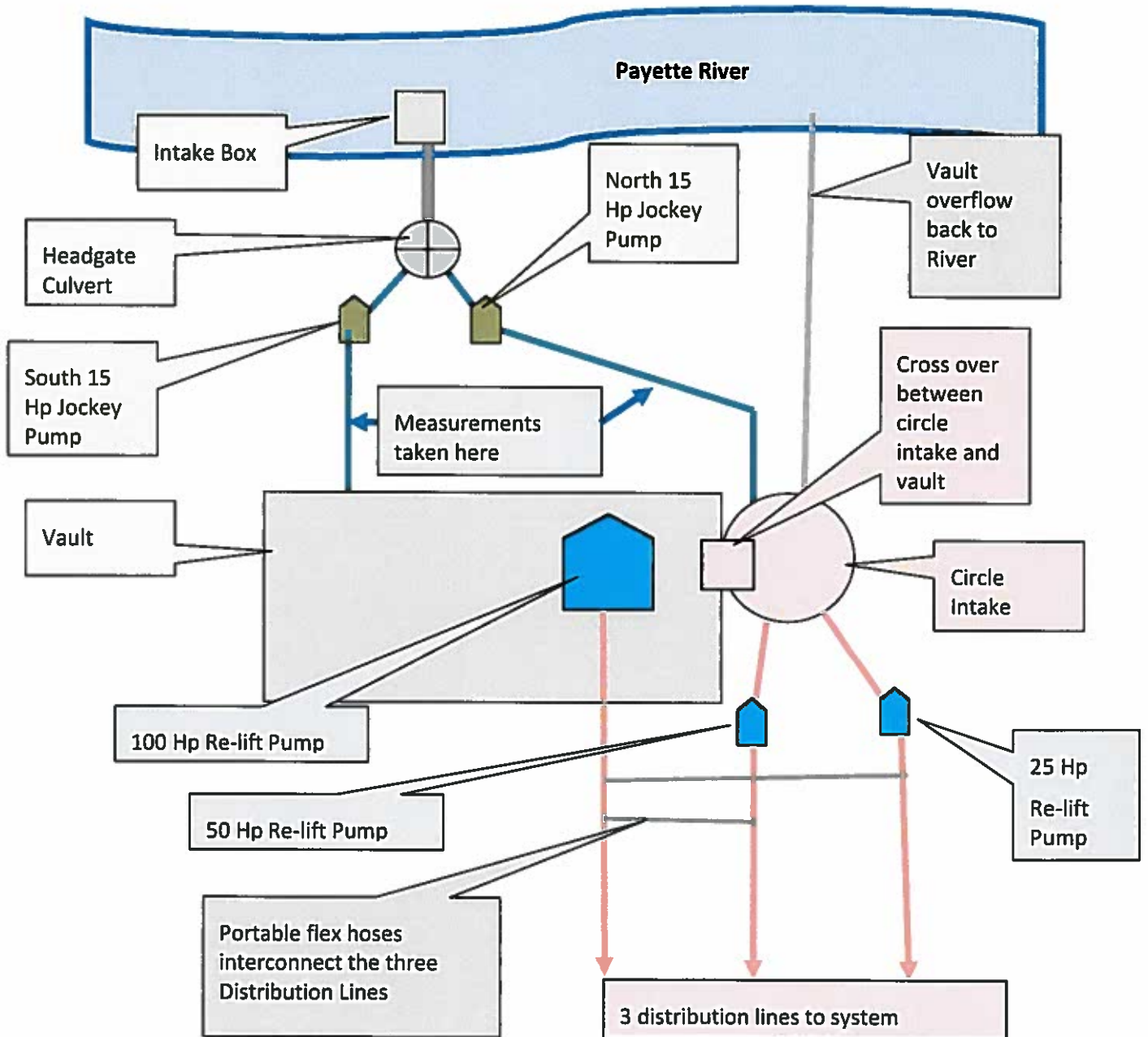
Faull Ranch and
OD Partnership Diversion

Faull Ranch and
OD Partnership Diversion
There are No Pumps At
This Diversion

2015 Aerial Photo
211 acres X 0.02 = 4.22 cfs
Permit 65-23574

NORTH DIVERSION

The water for this system is drawn from a fault in the river bed to a culvert with a headgate. From the headgate, the water is piped to 2 vaults where what appears to be 2-15 Hp Jockey pumps lift the water to the main vaults. One of the pumps didn't have a nameplate and the other said it was a 7.5 Hp, but from the power meter and the water delivery, both of these pumps appeared to be 10 to 15 Hp pumps. A 100 Hp pump diverts water from the main vault, and the 25 Hp and 50 Hp pumps divert water from a smaller circular vault. Both vaults are connected together. The re-lift pumps deliver the water to the distribution systems.



POLYSONIC READINGS

PERMIT #: 65-23574

POINT OF DIVERSION

South Jockey Pump Pipe

FIRST SET OF INFORMATION:

SET-UP IMPUTE DATA USED DURING
PREPARATION FOR FLOW MEASUREMENTS.

SECOND SET OF INFORMATION:

THESE ARE THE READINGS TAKEN FOR
THIS PUMP. THE TOTAL FLOW WAS
AVERAGED OVER A 10 MINUTE READING.

FLOWS IN GALLONS PER MINUTE (GPM)

649 GPM FLOW RATE

FLOWS IN CUBIC FEET PER SECOND (CFS)

649 GPM / 448.8 = 1.45 CFS FLOW RATE

Please Note: The North Jockey Pump
pipeline was measured at 829 gpm or
1.85 cfs. The total water diverted
to this irrigation system is:

1.85 cfs + 1.45 cfs = 3.30 cfs

06-29 09:2800 *I
+ E 2GPH

06-29 09:2800 *I
+ E 2GPH

OUTER DIAMETER
10.020 IN

PIPE MATERIAL
? AL.DI

WALL THICKNESS
0.0520 IN

INNER LINING
? NO LING.

KIND OF FLUID
? WATER

SENSOR MOUNTING
? U

TYPE OF SENSOR
? SMALL

DATA CHANGE
? NO

SPACING
7.415 IN U

06-29 09:4700 *H
+003.00 % AI2

MODE SELECT
TO CHECK

0372.2 MMSEC
100.46 % T0

00-00 00:0400
+406.296E 2GPH

00-00 00:0400 *R
+003.00 % AI2

10:33+661.751E 0GPM 00R
+ 2.749E 0FPS 00R
+00000 *10 G 00R
-00000 *10 G 00R

10:34+667.827E 0GPM 00R
+ 2.775E 0FPS 00R
+00064 *10 G 00R
-00000 *10 G 00R

10:35+634.805E 0GPM 00R
+ 2.637E 0FPS 00R
+00129 *10 G 00R
-00000 *10 G 00R

10:36+656.203E 0GPM 00R
+ 2.726E 0FPS 00R
+00195 *10 G 00R
-00000 *10 G 00R

10:37+686.054E 0GPM 00R
+ 2.851E 0FPS 00R
+00259 *10 G 00R
-00000 *10 G 00R

10:38+653.825E 0GPM 00R
+ 2.716E 0FPS 00R
+00324 *10 G 00R
-00000 *10 G 00R

10:39+647.485E 0GPM 00R
+ 2.690E 0FPS 00R
+00390 *10 G 00R
-00000 *10 G 00R

10:40+662.543E 0GPM 00R
+ 2.752E 0FPS 00R
+00455 *10 G 00R
-00000 *10 G 00R

10:41+664.657E 0GPM 00R
+ 2.762E 0FPS 00R
+00520 *10 G 00R
-00000 *10 G 00R

10:42+677.337E 0GPM 00R
+ 2.814E 0FPS 00R
+00585 *10 G 00R
-00000 *10 G 00R

10:43+659.373E 0GPM 00R
+ 2.739E 0FPS 00R
+00649 *10 G 00R
-00000 *10 G 00R

POLYSONIC READINGS

PERMIT #: 65-23574

POINT OF DIVERSION

North Jockey Pump Pipe

FIRST SET OF INFORMATION:

SET-UP IMPUTE DATA USED DURING
PREPARATION FOR FLOW MEASUREMENTS.

SECOND SET OF INFORMATION:

THESE ARE THE READINGS TAKEN FOR
THIS PUMP. THE TOTAL FLOW WAS
AVERAGED OVER A 10 MINUTE READING.

FLows IN GALLONS PER MINUTE (GPM)

829 GPM FLOW RATE

FLows IN CUBIC FEET PER SECOND (CFS)

829 GPM / 448.8 = 1.85 CFS FLOW RATE

Please Note: The South Jockey Pump
pipeline was measured at 649 gpm or
1.45 cfs. The total water diverted
to this irrigation system is:

1.85 cfs + 1.45 cfs = 3.30 cfs

MODE SELECT
INPUT

ROUTED TO UNIT 1
10.7

POINT NUMBER
10

DATE TIME
5.25.90

SENSOR LOCATION
NO KING.

KIND OF PUMP
?

SENSOR MOUNTING
?

TYPE OF SENSOR
?

DATA CHANGE
?

SPACING
2.097

ZERO MODE
CLEAR

ZERO MODE
CLEAR

ZERO MODE
OUT ZERO

06-29 09:13:00 W2
+003120 N 112

MODE SELECT
10 CHECK

0079.2 MMSEC
101.15 X 70

10:33+856.974E 00GPM 00R
+ 3.471E 0FFS 00R
+00000 *10 G 00R
-00000 *10 G 00R

10:34+810.744E 00GPM 00R
+ 3.264E 0FFS 00R
+00000 *10 G 00R
-00000 *10 G 00R

10:35+847.199E 00GPM 00R
+ 3.431E 0FFS 00R
+00166 *10 G 00R
-00000 *10 G 00R

10:36+827.122E 00GPM 00R
+ 3.749E 0FFS 00R
+00247 *10 G 00R
-00000 *10 G 00R

10:37+826.330E 00GPM 00R
+ 3.346E 0FFS 00R
+00332 *10 G 00R
-00000 *10 G 00R

10:38+816.577E 00GPM 00R
+ 3.207E 0FFS 00R
+00115 *10 G 00R
-00000 *10 G 00R

10:39+827.122E 00GPM 00R
+ 3.349E 0FFS 00R
+00497 *10 G 00R
-00000 *10 G 00R

10:40+823.582E 00GPM 00R
+ 3.335E 0FFS 00R
+00591 *10 G 00R
-00000 *10 G 00R

10:41+825.537E 00GPM 00R
+ 3.343E 0FFS 00R
+00662 *10 G 00R
-00000 *10 G 00R

10:42+853.611E 00GPM 00R
+ 3.454E 0FFS 00R
+00741 *10 G 00R
-00000 *10 G 00R

10:43+816.933E 00GPM 00R
+ 3.316E 0FFS 00R
+00829 *10 G 00R
-00000 *10 G 00R

Payette River Rights

Legal Description	65-28588 D&O/ Fauli Ranch Payette River	65-22713 -- Fauli Ranch -- Payette River	65-22725 -- Fauli Ranch -- Payette River	65-23220 -- D&O -- Payette River	65-23221 -- Fauli Ranch -- Payette River	65-23222 -- D&O -- Payette River	65-23223 -- Fauli Ranch -- Payette River	65-23240 -- D&O -- Payette River	65-23241 -- Fauli Ranch -- Payette River	65-23574 -- Permit -- Fauli Ranch -- Payette River	Total Payette WaterRights	1987 GIS Irrigated Lands Found	2015 GIS Irrigated Lands Found
2 NESW								3.1			3.1	2.7	2.4
2 SESW				11		13		1.1			25.1	27	24
2 NESE								1			3	2.4	1.8
2 NWSE								1	1.4		2.4	2.8	1.6
2 SWSE		5	3.7		1	3	17	4.2	10	0.1	44	36	32
2 SESE					13		20	5.2	10	3.7	51.9	35	31
11 NENE	8				24		35				59	36	32
11 NWNE					24		34				58	32	30
11 SWNE					18		19				37	16	14
11 SENE					26		32				58	26	23
11 NENW					26		18				44	23.2	19
11 SENW											0	0.3	0.1
											385.5	239.4	210.9

Non Payette River Sources

Legal Description	65-12842 Fauli Ranch Porter Creek	65-31048 D&O/ Fauli Ranch Porter Creek	65-3104C Fauli Ranch Porter Creek	65-13606 Fauli Ranch Spring & Unnamed Stream	65-3803D Fauli Ranch Hill Creek	65-3803C Fauli Ranch Hill Creek	Other streams Total	65-23574 -- Permit -- Fauli Ranch -- Payette River	Total Payette WaterRights	1987 GIS Irrigated Lands Found	2015 GIS Irrigated Lands Found
2 NESW							0		3.1	2.7	2.4
2 SESW	14						14		25.1	27	24
2 NESE							0		3	2.4	1.8
2 NWSE							0		2.4	2.8	1.6
2 SWSE	3.2	2		1		15	21.2	0.1	44	36	32
2 SESE		9				9	18	3.7	51.9	35	31
11 NENE		16	4				20		59	36	32
11 NWNE	7.8	14					21.8		58	32	30
11 SWNE		18					18		37	16	14
11 SENE		27					27		58	26	23
11 NENW	17						17		44	23.2	19
11 SENW							0		0	0.3	0.1
							157		385.5	239.4	210.9

Water Right	Source	Diversion Rate	Acres	Rate Per Acre	Owner
65-28588	Payette River	0.15	8	0.0188	Faull Ranch Estates Owners Assn.
65-22713	Payette River	0.11	5	0.0220	Faull Ranch Estates Owners Assn.
65-22725	Payette River	0.11	3.7	0.0297	Faull Ranch Estates Owners Assn.
65-23220	Payette River	0.22	11	0.0200	O & D Partnership
65-23221	Payette River	2.35	130	0.0181	Faull Ranch Estates Owners Assn.
65-23222	Payette River	0.31	16	0.0194	O & D Partnership
65-23223	Payette River	3.53	176	0.0201	Faull Ranch Estates Owners Assn.
65-23240	Payette River	0.44	25.6	0.0172	O & D Partnership
65-23241	Payette River	0.53	23.4	0.0226	Faull Ranch Estates Owners Assn.
65-23754 Permit	Payette River	0.08	4	0.0200	Faull Ranch Estates Owners Assn.
65-12842	Porter Creek	0.84	42	0.0200	Faull Ranch Estates Owners Assn.
65-3104B	Porter Creek	1.53	86	0.0178	Faull Ranch Estates Owners Assn.
65-3104C	Porter Creek	0.7	4	0.1750	Faull Ranch Estates Owners Assn.
65-13606	Spring & Unnamed Stream	0.03	1	0.0300	Faull Ranch Estates Owners Assn.
65-3803C	Hill Creek	0.55	24	0.0229	Faull Ranch Estates Owners Assn.
65-3803D	Hill Creek	0.19	8	0.0238	Faull Ranch Estates Owners Assn.

Diversion Rate Payette River = 7.75
 Acres Irrigated Payette River = 398.7
 Rate Per Acre Paytte River = 0.0194 cfs

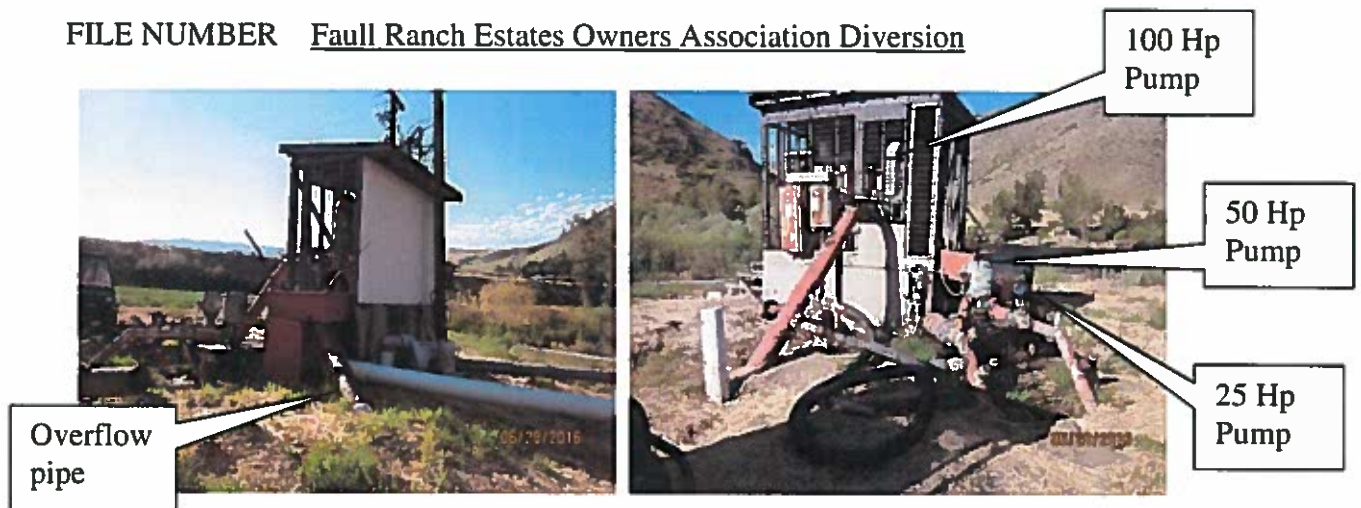
Water Right	Owner	Acres Section 2 SWSE	Rate Per Acre	Acres Section 2 SESE	Rate per Acre
65-22713	Faul Ranch Owners	5	0.0220	0	0.0220
65-22725	Faul Ranch Owners	3.7	0.0220	0	0.0220
65-23221	Faul Ranch Owners	1	0.0181	13	0.0181
65-23223	Faul Ranch Owners	17	0.0201	20	0.0201
65-23241	Faul Ranch Owners	10	0.0226	10	0.0226
Total Acres - Average Rate/Ac		36.7	0.0210	43	0.0210
Acres Irrigated 1987		36		35	
Acres Irrigated 2015		32		31	

The existing water right for the 40 acre tract described in permit 65-23574 for irrigation uses already has adequate water rights to cover the irrigation use requested by the permit at a rate per acre above the standard of 0.02 cfs per acre. Therefore, I have to recommend that permit 65-23574 not be licensed.

PLEASE NOTE: D & O also has water rights in these 40 acre tracts, but I did not use these water rights in the table above. The total acres actually able to be irrigated in the two 40 acre tracts above are 44 and 51.9 acres. There are more water rights than acres irrigated in these two 40 acre tracts.

PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 7/29/2016

FILE NUMBER Faull Ranch Estates Owners Association Diversion



The photos above show the vault and the re-lift pumps. The pump in the structure on top of the vault is a 100 Hp pump, and is the main pump used. This pump will draw down the vault, so it pumps more water than the jockey pumps can provide. The outside pump on the left is the 50 Hp pump and the pump on the right is the 25 Hp pump. The two black flex hoses connect all of the lines together.



The photos above show the vault. It is approximately 8 feet deep. The red box on the side of the main vault is connected to the vault and water flows back and forth between the two structures. The smaller pumps divert out of the red circular box on the side, and the 100 Hp pump diverts out of the main vault. The 100 Hp pump was the only pump running at the time of this measurement, and the pump was diverting against 120 psi of pressure as seen on the guage below.



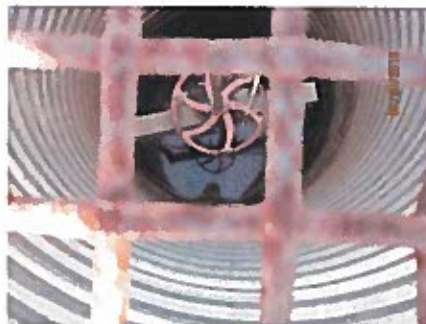
PHOTOGRAPHER AND DATE OF PHOTOS DANIEL A NELSON 7/29/2016

FILE NUMBER Faull Ranch Estates Owners Association Diversion



Intake Box and Screen

The photo above shows the intake box in the Payette River. You can see the outline of the box in the photo.



The intake from the river delivers water to the headgate culvert shown above. The headgate in the culvert.

Headgate Culvert



Measured Here

And Measured Here

From the headgate culvert shown in the left picture, the water is piped to two jockey pumps. The jockey pumps sit on two culverts that are used to lift the water to the main diversion vaults. The main diversion vault is shown in the picture on the left. The water in the vaults are pumped out by a combination of 3 re-lift pumps. The measurements that were done, where on the pipelines leading from the jockey pumps to the vaults. In the left hand photo, you can see a picture of a pipeline coming from the top of the vault. This pipeline is the overflow pipe that sends excess water back to the Payette River.