MEMORANDUM

Date: October 29, 2014

To: Water Right File 37-7842

From: Michele Edl

Re: license review

Background

In July 7, 1986 when John LeMoyne, then chairman of the Lower Snake Aquifer Recharge District (LSARD), submitted a proposal to the USBOR for the High Plains States Groundwater Demonstration Program Act of 1983, he mentioned two sites for aquifer recharge. One location was undeveloped at that time and is now the Shoshone recharge site. The other location was a pre-existing site on the Dietrich Canal near Richfield.

The Beneficial Use Field Reports which have been submitted for the licensing of this permit consider only the Shoshone site. I base my recommendations for this license on the recharge activity which occurred at the other site. See Dietrich Canal site discussion below.

Field visit confirmation

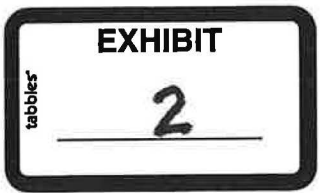
There were two field examiner's reports to review for licensing. Both reports were completed by the same examiner, Gerald Martens. One was signed by Mr. Martens on July 6, 1992 and submitted with a Proof of Beneficial Use statement on July 27, 1992. The second was signed on November 24, 1993 and received by IDWR on November 29, 1993. Neither report was complete enough to be reviewed independently. And although I pooled information from both reports, I found that confirmation of beneficial use remained unclear. It was necessary to revisit some of the relevant locations before I could complete a pre-licensing review.

On July 9, 2014, Shelley Keen and I visited the office of the Big Wood Canal Company (BWCC) and met with Lynn Harmon, the manager of the BWCC. Mr. Harmon provided the as-built engineering plans for the Bification and guided us to the site. He also gave us directions to the Dietrich Canal site. I have attached photos of the bifurcation and the Dietrich site which I took that day.

Shoshone recharge site

After reviewing flow records provided by the field examiner in his November 1993 report, I found that he had recommended the Big Wood River as one source of the recharge water. He appeared to have based his source recommendations on readings which were taken at locations on the Milner-Gooding Canal (a canal segment controlled by North Side Canal Company) and the Dietrich Canal (a canal segment controlled by Big Wood Canal Company). The examiner mislabeled two of the column headings in his spreadsheet. The data in the two columns furthest to the right should be swapped. I have confirmed that the data did come from records kept by the watermaster for Basin 37 and 37M. And in discussions with the watermaster, I have also confirmed that, although unlikely, it is possible to bring water from the Big and Little Wood Rivers to the Shoshone site.

The Shoshone recharge site is located between measuring stations #56 and #57 on the Milner-Gooding Canal. It is also downstream from a structure which carries the nameplate label "Byfication". (The correct spelling for this term is bifurcation). This unique structure is a combination siphon and flow control structure. It was constructed circa 1930 and under certain conditions it could be capable of directing water from the Little Wood River into the Milner-Gooding Canal. But typically water flows in the opposite direction, from the Milner-Gooding Canal into the Little Wood River.



There are two lanes that water can take through the bifurcation. Water can remain in the Milner Gooding Canal and continue to flow northeast after dipping under the Little Wood River in the bifurcation siphon. Or water can exit the Milner-Gooding Canal through the bifurcation's turn-out lane to join the Little Wood River and flow southeast. The direction of flow can be reversed only if the water in the Milner-Gooding Canal has less energy than the water in the Little Wood River. For water from Basin 37 to be the source water for the event on which Mr. Martens bases his recommendations, he would have needed to confirm that the flow in the Little Wood River was greater than the flow in the Milner-Gooding Canal. That was not the case.

Although there was excess water in Basin 37 (the Little Wood and Big Wood Rivers) during April and May of 1986, there was also water flowing in the Milner-Gooding Canal which originated from Basin 1 (the Snake River). The quantity of water flowing in the Milner-Gooding Canal at the time excluded a reversal of the flow through the bifurcation. The water arriving at the Shoshone recharge site in April and May of 1986 was from the Snake River.

Based on the engineering plans, the site visit and the flow data provided, I have concluded that the examiner confirmed a recharge event at the Shoshone recharge site but that little if any of the source water for that event could be attributed to the Big or Little Wood Rivers. The water came from the Snake River through the Milner-Gooding Canal.

Companion water right 1-7054 should be used to authorize the Snake River as a source of recharge water, which leaves water right permit 37-7842 to authorize recharge water from the Big Wood and Little Wood Rivers. The Dietrich Canal site uses water from Basin 37 for recharge.

Dietrich Canal recharge site

When permit 37-7842 was issued in 1982, several new sites within the LSARD were being considered for aquifer recharge. The Shoshone recharge site was developed through that effort. However, even before the LSARD was created, (on August 27, 1981) a site adjacent to the Dietrich Canal had been developed and used for flood/flow control.

The first week in April of 1981, the Shoshone District Manager of the BLM, Commissioners from Gooding and Lincoln County and the Mayors of Shoshone and Gooding signed a cooperative agreement for the use of 2320 acres of public land for flood control. (See attached copy of Cooperative Agreement I-05-63.)

Construction of the Dietrich site preceded the Cooperative Agreement by more than 10 years. According to Lincoln County and Big Wood Canal Company personnel the rediversion structure on the Dietrich Canal had been constructed circa 1970. Lincoln County personnel provided photos (taken July 29, 2014) which show a section of the Dietrich Canal and the wall of the rediversion structure which is etched with the year 1970.

The Lower Snake Aquifer Recharge District considered both the Shoshone site and the Dietrich site as aquifer recharge sites in 1986. In a recharge demonstration proposal to the USBOR, the LSARD Ground Water Recharge Demonstration Proposal states,

> There are two locations where water is being discharged into the aquifer. One is on the Dietrich Canal just south of Richfield. This is a flood control facility used by Lincoln and Gooding Counties to prevent flooding along the Little Wood River. This site will handle 800 cfs of discharge up to a week and continued flow of approximately 200 cfs. [1]

I am recommending the Dietrich Canal site as the place-of-use for this water right. But before I detail the elements of the water right, it's important that I clarify what I mean by aquifer recharge and how this facility qualifies.

[1] Lower Snake Aquifer Recharge District Ground Water Recharge Demonstration Proposal July 7, 1986 for High Plains States Groundwater Demonstration Program Act of 1983, submitted by John LeMoyne,

Activities which enhance aquifer recharge can be put into three categories.[2]

1. Unintentional – the consequences of deliberate activities that have an unrelated purpose. Examples are deep seepage under irrigation areas or leaking water and sewer pipe.
2. Unmanaged – an intentional activity known to increase aquifer recharge, but usually undertaken to dispose of water rather than to recover it. Examples include septic tank leach fields and flood control impoundments. The recharge proponent does not take any responsibility for water recovery.
3. Managed – an intentional activity to increase aquifer recharge and to recover water for economic or environmental purposes. Examples of the mechanisms for managed recharge include injection wells and infiltration basins.

The essential components common to both managed and unmanaged aquifer recharge project are: a source of water, a means to capture that water, sufficient land to harvest the water and an intentional water related activity which can increase the supply of water stored in an aquifer.

Conclusion
Although the agreement with the BLM was for flood control, and the site is not currently approved for managed aquifer recharge, I propose that the Dietrich Canal site qualifies as an unmanaged aquifer recharge site. And that there may be an opportunity to convert the site from unmanaged to managed recharge site by applying conditions on its operation. Therefore, I am recommending the following elements in a license for ground water recharge use.

POD
The permit POD address is incorrect. Glen Saxton recognized the error early on and indicated that the POD should be in section 25, Township 4S, Range 19E. Mr. Saxton's recommended PLSS grid address is the location of the Dietrich Canal's measuring site and/or its diversion from the Little Wood River. And it is the POD address that I identify and recommend for this right.

A licensing amendment will be required.

According to available Lincoln County taxlot information the BLM owns the property at the point-of-diversion.

Source
The permit authorized water diverted from both the Big Wood River and the Little Wood Rivers.

There is a potential path that water from the Big Wood River could take to the POU. But water from the Big Wood River would need to travel a convoluted route involving the Richfield canal and the Jim Byrns Slough before eventually injecting into the Little Wood River near Richfield above the POD. Therefore, the Big Wood River has been eliminated as a source and I am recommending only the Little Wood River as the source for water diverted under this permit.

Cooperative Agreement I-05-63 recognized that the capacity of the Little Wood River and the servant canals could be insufficient to contain all the water periodically available from the Little Wood River drainage.

The Dietrich Canal provides the means to convey the water from the Little Wood River to the recharge site.

Water Use
POU has been used for flood or flow control by the Lincoln and Gooding Counties since the re-diversion

[2]Waterlines Report Series No. 13, Managed aquifer recharge, February 2009, Australian Government National Water Commission.

structure was constructed.
The rediversion structure pre-existed permit 37-7842. Big Wood Canal Company personnel stated that it had been constructed by the Lincoln County in the late 1960's. In response to an information request, the Lincoln County Commissioners office provided the attached photos showing the inscribed date, 1970.

The application for permit states that the applicant expected to use the Dietrich Canal and/or Richfield Canal by contract. The Dietrich Canal is used to convey the water to the site. According to the data in the watermaster's records, the Dietrich Canal has a capacity of nearly 400 cfs. (See May 17, 1984 record). I believe that those records are based on a stage-discharge relationship. The raw, hand-written records show that the relationship was appropriately adjusted throughout that irrigation season.

Based on personal conversations with the current watermaster, Kevin Lakey, and the current manager of the Big Wood Canal Company, Lynn Harmon, the customers served by the Dietrich Canal have an early irrigation season demand of approximately 150 cfs. The water data indicates that almost 400 cfs was flowing in the Dietrich Canal. Given that the daily spot readings may have an error of +/- 10%, there would have been 210 to 250 cfs available through the canal for other uses at this location. (400 cfs – 40 cfs error = 360 cfs. Approximately 150 of the 360 would be dedicated to irrigation use, leaving at least 210 cfs for aquifer recharge.)

According to the current manager of the BWCC, the site can absorb the entire flow that the Dietrich Canal is capable of delivering. (from 7/9/2014 conversation). The quote from the LSARD proposal above indicates that the LSARD believed that the site could absorb more water. However, I do not have data to support either rate statement.

Watermaster records for 1984 indicate that water diverted into and from the Dietrich Canal for flood control (which is unmanaged aquifer recharge), within the development period of the permit (1982-1992). See the attached page from the WM book and my spreadsheet.

My flow rate and volume recommendations are based on watermaster records for the 1984 irrigation season.[3] Although the Little Wood River may have had higher flows in other years, the records from the spring of 1984 show that excess Little Wood River water was channeled into the Dietrich Canal and likely discharged at the Dietrich Canal recharge site. There is no record that the water was subsequently recovered and used.

POU
The POU is located in section 2, Township 5S, Range 19E, which is within the boundary of the LSARD. This specific place-of-use was not advertised but could be included in published "possible sites for recharge" which were in T 5S R 19E. (See the advertisement.)

According to available Lincoln County taxlot information, the BLM owns the place of use. In 1981, before this permit was approved, the BLM, Lincoln and Gooding County Commissions, and the mayors of Shoshone and Gooding signed a cooperative agreement which allowed the public's land to be used for flood control.

The flood control site is a natural basin which has been utilized to capture and hold the water for a short time until it enters the subsurface. I created the POU shape using elevations from the available ArcMap DRG layer. The site is a broad, flat, land surface bounded by the Dietrich Canal bank and low berms to create an infiltration basin.

IDWR knows very little about the soils or subsurface geology at the site. (See Neal Farmer's email.) However, the height of water delivered to site would be limited by the height of the canal bank, which would in turn limit the pressure head available to drive water into the subsurface.
The volume of the infiltration basin likely exceeds the volume I recommend for this license.

[3] Formally titled Water Distribution and Hydrometric Work, Districts Nos. 37 and 37M, Big and Little Wood Rivers, 1984.

Status/combined use
No other water rights overlap the POU.
Several water rights share the POD. Most of those rights are held by the Big Wood Canal Company and when totaled, they exceed what I understood to be the carrying capacity of the Dietrich Canal. (See the water use section above.) I confirmed with the watermaster that the following rights can be diverted into the Dietrich Canal from the Little Wood River: 37-13043, 37-13112 through 37-13114, and 37-21401 through 37-21405 (held by Big Wood Canal Company) and right 37-14264, (held by the BLM). The license will contain a combined limit on the rate.

The licensed right will be subordinated. The following subset of permit condition d will be maintained on the license. This water right shall be secondary to all prior water rights including rights held by any privately owned electrical generating company to appropriate waters in the reaches of the Snake River downstream from the Milner diversion for purposes of hydroelectric power generation.

Priority date
When the permit was reinstated on December 1, 1993 the priority was advanced.

Other Conditions
The recharge site off the Dietrich Canal was developed before this permit was issued. Although IDWR has issued permits to existing facilities in the past, it's not clear that the Department was aware of the Dietrich Canal site. Permit 37-7842 is conditioned looking forward to new facilities rather than backward at a facility that already been developed.

The permit was issued with two conditions which will require additional discussion at the management level. Those conditions are the last two conditions listed under permit condition d. Other. They are:

> Water may not be diverted under this permit until the Board of Directors of the District establish and implement a procedure acceptable to the Director for assuring that the water quality of the Lower Snake Aquifer will not be impaired.
>
> Plans for recharge facilities and any conveyance works needed shall be submitted to the department for approval prior to construction.

It may be possible to acquire plans for the diversion and rediversion structures and therefore satisfy the second of the two conditions above. My preliminary requests for that information have not been successful.

That leaves the first of these two conditions unmet. A plan and procedure for protecting the water quality of the recovered water indicates that IDWR expected that any new facility would be a managed recharge facility. It did not expect that an existing, unmanaged recharge facility would be found to have beneficially used water for recharge.

If the nature-of-use for the Dietrich site is to be changed from an unmanaged recharge site to a managed recharge site through a transfer, then these last two conditions should be reevaluated.

Recommendations
I recommend 250 cfs as the rate for this license. The recommendation is based on a rate derived from the watermaster records for April and May 1984. (See excel spreadsheet)

I recommend 13,900 AF as the volume for this license. This recommendation is again based April and May 1984 watermaster records which indicate that a flow rate exceeding the irrigation requirements was available 28 days of those months. (28 days x 250 cfs x 1.9835 = 13884.5 AF. When rounded to three significant figures = 13,900 AF)

Water District # 37 & 37M

Daily Discharge in second feet of Dietrich Canal #11 for the year ending Sept 30, 1984

Day	April	May	June	July	August	September
1	14	291	238	230	213	197
2	16	309	235	228	214	198
3	16	321	228	233	202	200
4	25	321	227	233	196	200
5	27	319	233	216	197	197
6	27	309	238	217	198	193
7	28	306	226	219	198	193
8	28	300	226	220	196	196
9	29	251	226	223	196	196
10	30	183	227	228	196	196
11	30	184	227	224	196	194
12	30	204	216	223	197	201
13	30	213	213	223	206	185
14	30	219	213	224	214	179
15	30	294	209	230	201	180
16	30	390	206	231	203	179
17	30	396	206	231	204	177
18	30	387	204	230	204	181
19	325	390	207	223	206	168
20	302	387	213	226	206	186
21	259	375	214	237	207	192
22	259	247	213	235	206	196
23	259	209	209	240	207	198
24	259	210	207	240	206	198
25	261	207	204	240	210	188
26	261	207	207	228	213	183
27	259	206	221	217	213	168
28	258	219	228	214	210	159
29	256	226	230	209	213	135
30	256	227	228	213	214	155
31		221		213	217	
24 HR CFS	3694	8528	6579	6998	6359	5568
Mean	123.1	275.1	219.3	225.7	205.1	185.6
Acre Feet	7327.049	16915.29	13049.45	13880.53	12613.08	11044.13

excel calculation

WR# 37-7842 table of differences created by Michele Edl

Day	April	May	June	July	August	September
1		141	88	80	63	47
2		159	85	78	64	48
3		171	78	83	52	50
4		171	77	83	46	50
5		169	83	66	47	47
6		159	88	67	48	43
7		156	76	69	48	43
8		150	76	70	46	46
9		101	76	73	46	46
10		33	77	78	46	46
11		34	77	74	46	44
12		54	66	73	47	51
13		63	63	73	56	35
14		69	63	74	64	29
15		144	59	80	51	30
16		240	56	81	53	29
17		246	56	81	54	27
18		237	54	80	54	31
19	175	240	57	73	56	18
20	152	237	63	76	56	36
21	109	225	64	87	57	42
22	109	97	63	85	56	46
23	109	59	59	90	57	48
24	109	60	57	90	56	48
25	111	57	54	90	60	38
26	111	57	57	78	63	33
27	109	56	71	67	63	18
28	108	69	78	64	60	9
29	106	76	80	59	63	-15
30	106	77	78	63	64	5
31		71		63	67	
sum	1414	2946	6429	6848	6209	5418
	2804.669	5843.391	12751.92	13583.01	12315.55	10746.6

excess of 150

daycount = 28

volume = 28 x 250 x 1.9835 = 13884.5

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WATER DISTRICT #37 & 37M

DAILY DISCHARGE IN SECOND FEET OF DIETRICH CANAL #11 FOR THE YEAR ENDING SEPT. 30, 1984

DAY	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1	14	291	238	230	213	197
2	16	309	235	228	214	198
3	16	321	228	233	202	200
4	25	321	227	233	196	200
5	27	319	233	216	197	197
6	27	309	238	217	198	193
7	28	306	226	219	198	193
8	28	300	226	220	196	196
9	29	251	226	223	196	196
10	30	183	227	228	196	196
11	30	184	227	224	196	194
12	30	204	216	223	197	201
13	30	213	213	223	206	185
14	30	219	213	224	214	179
15	30	294	209	230	201	180
16	30	390	206	231	203	179
17	30	396	206	231	204	177
18	30	387	204	230	204	181
19	325	390	207	223	206	168
20	302	387	213	226	206	186
21	259	375	214	237	207	192
22	259	247	213	235	206	196
23	259	209	209	240	207	198
24	259	210	207	240	206	198
25	261	207	204	240	210	188
26	261	207	207	228	213	183
27	259	206	221	217	213	168
28	258	219	228	214	210	159
29	256	226	230	209	213	135
30	256	227	228	213	214	155
31		221		213	217	
24 HR CFS	3694	8528	6579	6998	6359	5568
MEAN	123	275	219.3	226	205	186
ACRE FEET	7388	17056	13158	13880	12613	11044

TOTAL 24 Hr. C.F.S. 37,726

YEARLY MEAN 206.

YEARLY ACRE FEET 74,828.0

SCANNED

IDWR 14

123

Edl, Michele

From: Lynn Harmon [lynnharmon@cableone.net]
Sent: Tuesday, August 19, 2014 3:14 PM
To: Edl, Michele
Subject: Floodway recharge at Dietrich canal WR#37-7842

Michele, I visited with Curley Sorensen and he stated that the Canal Company installed the structure and the plans were provided by the Corp of Engineers. He said that the plans got destroyed during construction. Perhaps the Corp might have a copy of the Dietrich Floodway plans in their archives. Thanks Lynn Harmon

SCANNED

Edl, Michele

From: Mary Davidson [mdavidson@lincolncountyid.us]
Sent: Thursday, August 07, 2014 5:15 PM
To: Edl, Michele
Subject: RE: Information
Attachments: 003.JPG; 008.JPG; 007.JPG

WR# 37-7842

Here are a few more,
I sure hope this helped, I will let you know if I get any additional information. Did you get a hold of Curly Sorenson?

Mary Davidson
Planning and Zoning Administrator
208-886-9808
208-886-2798 Fax

From: Edl, Michele [mailto:Michele.Edl@idwr.idaho.gov]
Sent: Thursday, August 07, 2014 5:04 PM
To: Mary Davidson
Subject: RE: Information

Mary,
It came through just fine. Sorry so long getting back to you. It's been a busy day.

From: Mary Davidson [mailto:mdavidson@lincolncountyid.us]
Sent: Thursday, August 07, 2014 1:09 PM
To: Edl, Michele
Subject: RE: Information

Let me know how this comes thru

Mary Davidson
Planning and Zoning Administrator
208-886-9808
208-886-2798 Fax

From: Edl, Michele [mailto:Michele.Edl@idwr.idaho.gov]
Sent: Thursday, August 07, 2014 9:54 AM
To: Mary Davidson
Subject: RE: Information

Thank you very much. If emailing them is a hassle, I'll gladly accept the print outs via snail mail.
Idaho Department of Water Resources
322 E Front St
Boise, 83720

Our flood plain coordinator has been on vacation so I don't know yet if IDWR has any knowledge of the construction specs, date or other details of the Dietrich flood/flow control structure. If you have anything in the way of support documents, please know that I'm interested in them.
Michele Edl
208-287-4946

SCANNED

Edl, Michele

From: Mary Davidson [mdavidson@lincolncountyid.us]
Sent: Monday, August 18, 2014 5:01 PM
To: Edl, Michele
Subject: Pictures WR# 37-7842

Michele,
These picture were taken on July 29th 2014.

Hope this helps!

SCANNED

SCANNED

photo taken July 29, 2014

WR# 37-7842

IDWR 18



IDWR 19

photo taken July 29, 2014

WR# 37-7842



IDWR 20

Edl, Michele

From: Mary Davidson [mdavidson@lincolncountyid.us]
Sent: Thursday, August 07, 2014 1:09 PM
To: Edl, Michele
Subject: RE: Information
Attachments: 010.JPG

Let me know how this comes thru

Mary Davidson
Planning and Zoning Administrator
208-886-9808
208-886-2798 Fax

From: Edl, Michele [mailto:Michele.Edl@idwr.idaho.gov]
Sent: Thursday, August 07, 2014 9:54 AM
To: Mary Davidson
Subject: RE: Information

Thank you very much. If emailing them is a hassle, I'll gladly accept the print outs via snail mail.
Idaho Department of Water Resources
322 E Front St
Boise, 83720

Our flood plain coordinator has been on vacation so I don't know yet if IDWR has any knowledge of the construction specs, date or other details of the Dietrich flood/flow control structure. If you have anything in the way of support documents, please know that I'm interested in them.
Michele Edl
208-287-4946

From: Mary Davidson [mailto:mdavidson@lincolncountyid.us]
Sent: Thursday, August 07, 2014 9:41 AM
To: Edl, Michele
Subject: Information

Michele,
I have been out of the office since Monday just returning. I have not be able to download the pictures off the camera as yet. I am waiting for the Clerk to come in today to see if she can download onto her machine and get over to me.

I will let you know if there is a problem and I have to have printed off.

Have a wonderful and productive day☺

SCANNED

Mary Davidson
Planning and Zoning Administrator

208-886-9808
208-886-2798 Fax

SCANNED

SCANNED

photo taken July 29, 2014

WR# 37-7842

LOWER SNAKE AQUIFER RECHARGE DISTRICT

GROUND WATER RECHARGE DEMONSTRATION PROPOSAL

for

High Plains States Groundwater Demonstration
Program Act of 1983

submitted by

John LeMoyne, Chairman
Route 1, Box 148
Hagerman, Idaho 83332
837-4887

July 7, 1986

ATTACHMENT TO LICENSE REVIEW WR# 37-7842

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springs show the changes in amount of water discharged.

	1902	1910	1914	1917	1918	1924
Blue Lakes Springs	80(A)	118(A)	199(A)	215(O)	216(S)	194(S
Crystal Springs	304(A)	-	-	536(O)	-	486(S
Niagara Springs	107(A)	-	-	242(O)	322(S)	215(S
Briggs Springs	77(A)	_	_	128(S)	130(S)	125(O

(A) August (O) October (S) September

1] Geology and Ground Water, Snake River Plain, ID. Geological Supply Paper #774. Washington 1938.

In addition to this long term effect, there is an annual one demonstrated by the springs from the irrigation season. Approximately 30 days after irrigation starts on the plain above the springs, their flows begin to increase reaching a peak in September and October shortly after the irrigation is turned off. The lowest flows are experienced during April and May which is about the time irrigation water is turned into the canal system. See attachment III - Box Canyon flows.

2] Artificial Recharge to the Snake Plain Aquifer in Idaho, R.F. Norvitch, C.A. Thomas, and R.J. Madison; Aug.,1969.

There are two locations where water is being discharged into the aquifer. One is on the Dietrich Canal just south of Richfield. This is a flood control facility used by Lincoln

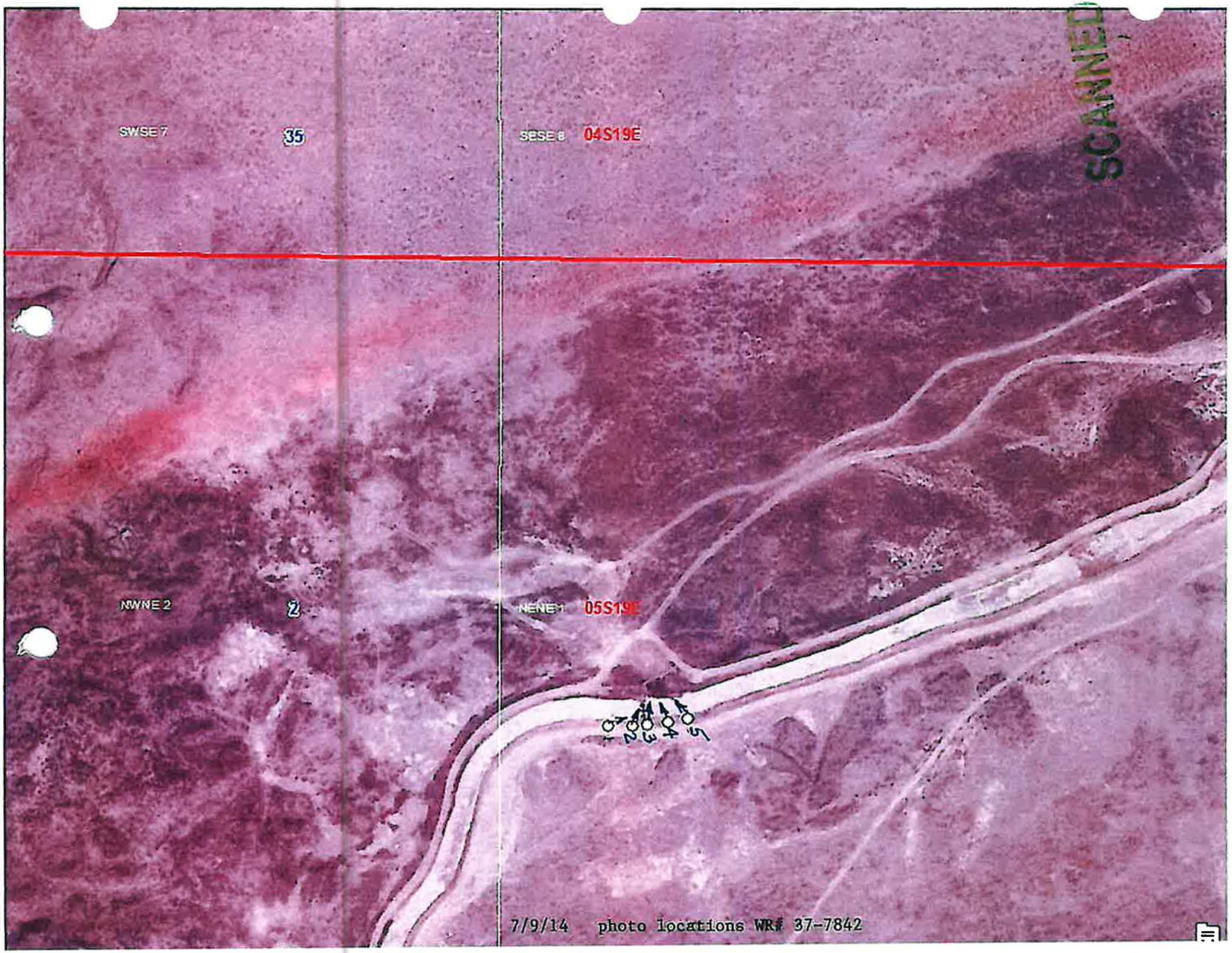
SCANNED

and Gooding Counties to prevent flooding along the Little Wood River. This site will handle 800 CFS of discharge up to a week and a continued flow of approximately 200 CFS. The other site was installed by the Recharge District at a cost of $79,746.00. It is north of Shoshone on the Milner-Gooding Canal and at present can handle about 300 CFS. In 1985, there were 7,800 acre feet discharged at this site over a 16 day period. Monitoring at this site, attachment IV shows the water in the adjacent well increased during the recharge period and was highest just after the recharge period ceased.

E. Hydrologic Conditions

Attachment VA and VB indicate the direction of flow of the Snake River aquifer. If has been a concern among the water users of the aquifer, that the aquifer level has been continually decreasing. We have enclosed information on 8 different wells located on attachment IIC and measurements documented on attachment IIB. Attachment IIB shows that the lowest water level is always a later date than the highest water level. All the lowest levels are in the 1980's with one exception; Well no.4 in 1979. The only data available to us was up through 1982. If we had access to recent data, it would be interesting to see if depth had continued to decline. This drop in water table is also demonstrated from the spring flow as substantiated by attachments IIA and III. The following events have occured over the past years which have led up to the reduced spring flows and a drop in the

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IDWR 27

IDWR 28

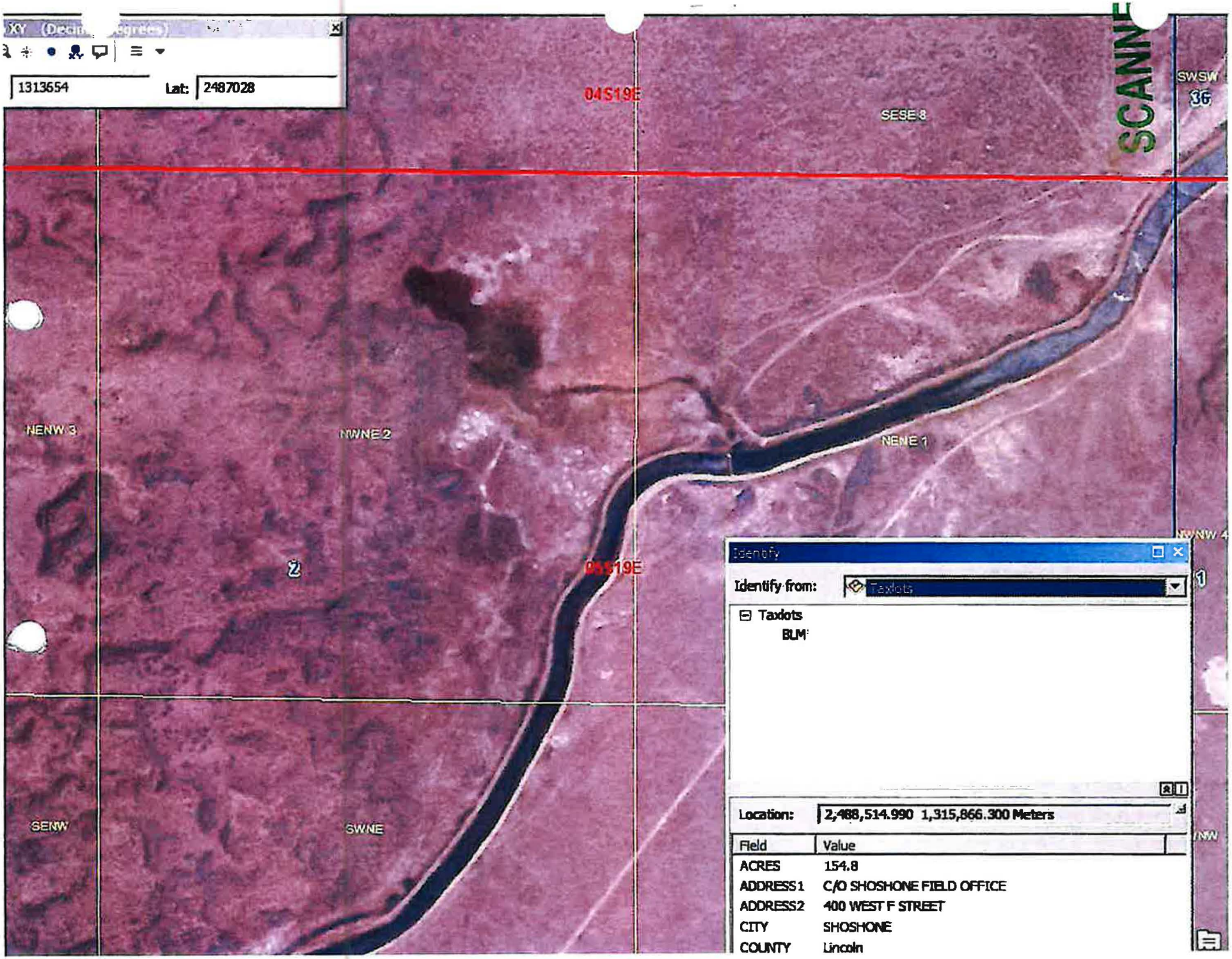
07/09/2014 14:26
WR# 37-7842
SCANNED



IDWR 30

SCANNED
WRF 37-7842
07/09/2014 14:29

SCANNED


1313654
Lat: 2487028
04S19E
SESE 8
SCANNED
SWSW
36
NENW 3
NWNE 2
NENE 1
2
05S19E
SENW
SWNE
Identify
Identify from:
Taxlots
Taxlots
BLM
Location: 2,488,514.990 1,315,866.300 Meters
Field
Value
ACRES 154.8
ADDRESS1 C/O SHOSHONE FIELD OFFICE
ADDRESS2 400 WEST F STREET
CITY SHOSHONE
COUNTY Lincoln

IDWR 33

Edl, Michele

From: Farmer, Neal
Sent: Friday, August 01, 2014 10:24 AM
To: Edl, Michele; Keen, Shelley
Cc: Patton, Brian; Lynn Harmon
Subject: GPS coordinates for Dietrich canal floodway diversion gates

Michele,

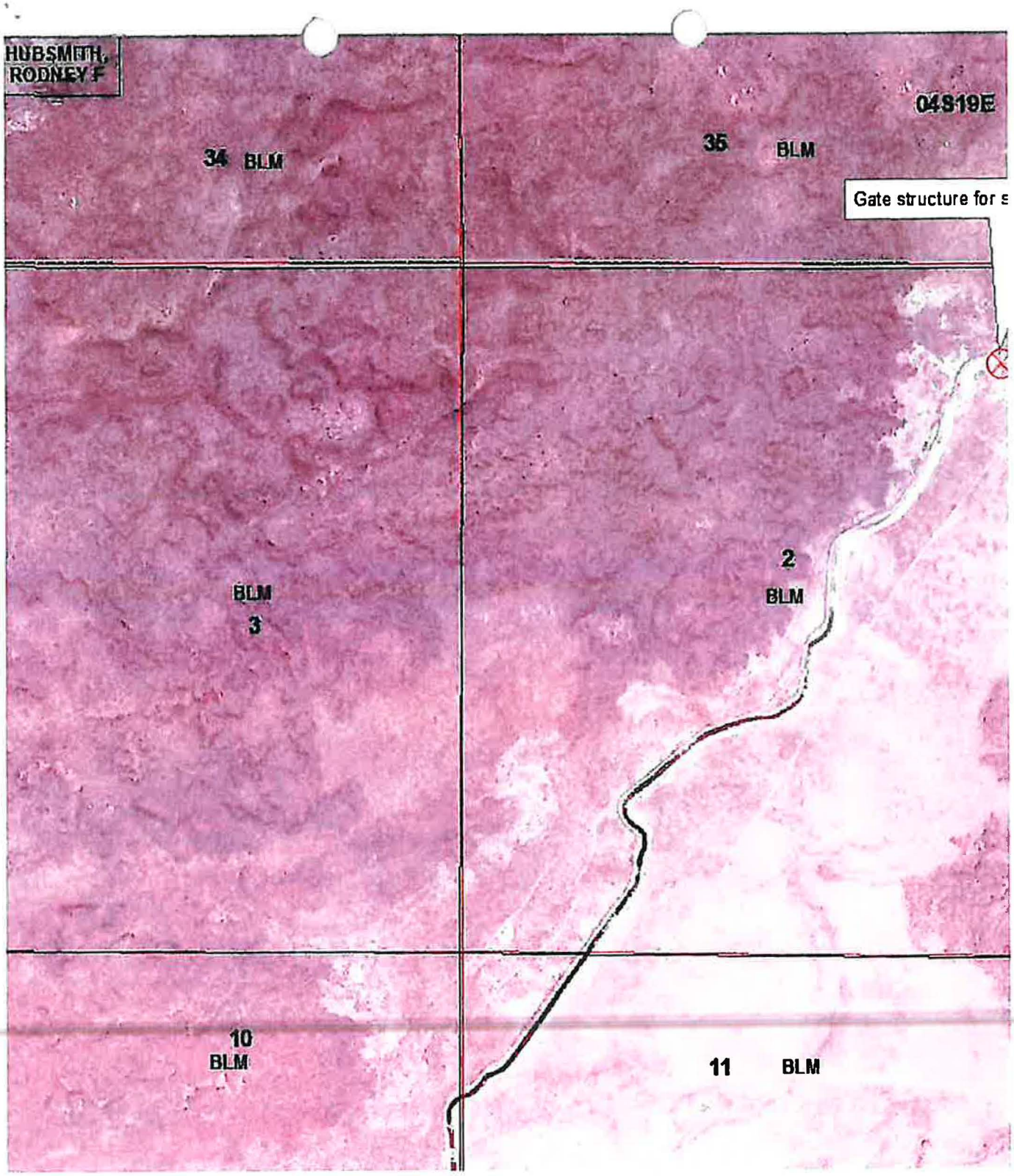
Below is the information from a gps point I collected in year 2008 for the location of the diversion headgate structure on the Dietrich canal where water is spilled out into the BLM land.

Easting = 2487028.663

Northing = 1313654.903

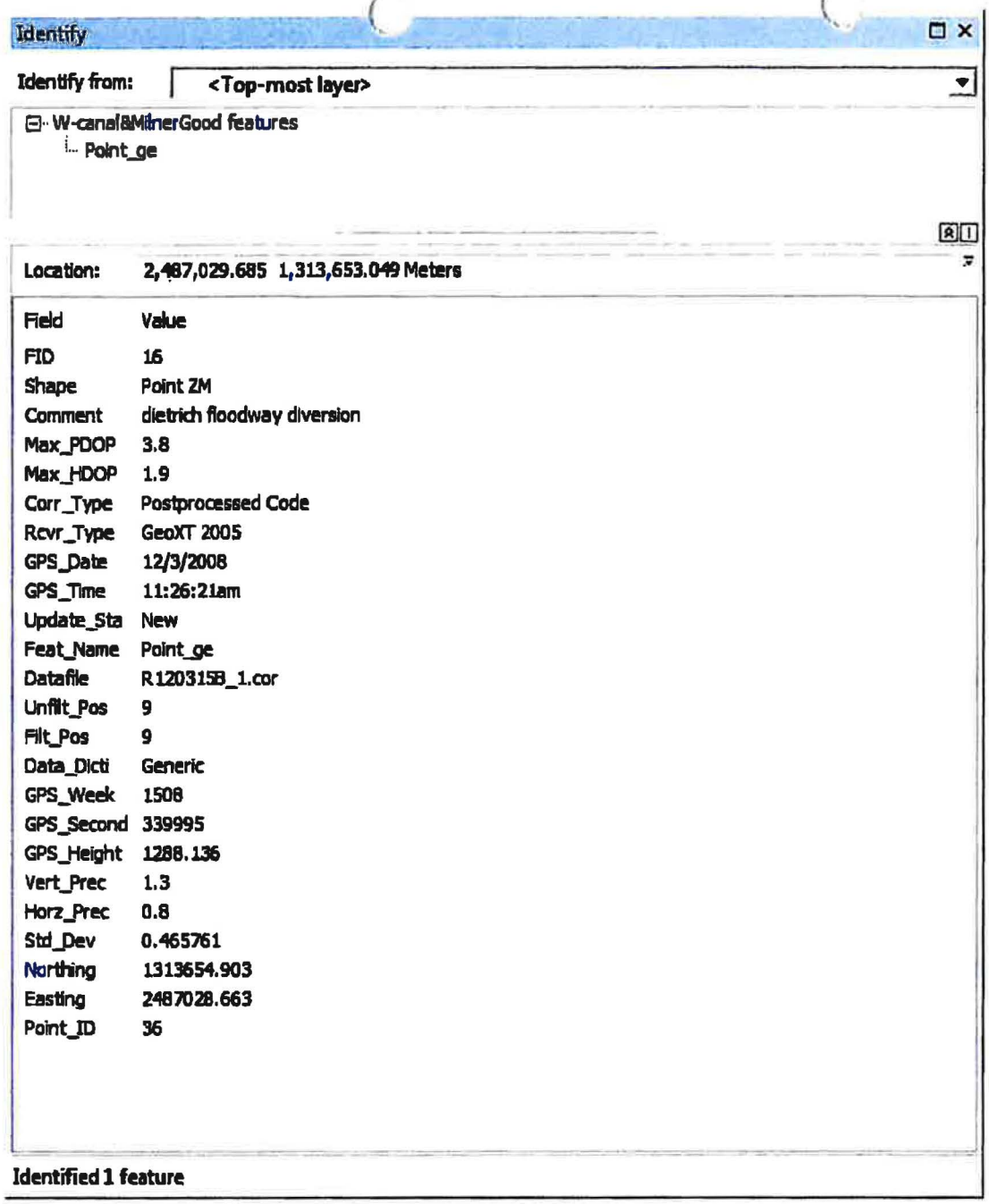
Neal's coordinates are in the wrong units system

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IDWR 35


Identify
Identify from:
<Top-most layer>
W-canal&MinerGood features
Point_ge
Location:
2,487,029.685 1,313,653.049 Meters
Field
Value
FID
16
Shape
Point ZM
Comment
dietrich floodway diversion
Max_PDOP
3.8
Max_HDOP
1.9
Corr_Type
Postprocessed Code
Rcvr_Type
GeoXT 2005
GPS_Date
12/3/2008
GPS_Time
11:26:21am
Update_Sta
New
Feat_Name
Point_ge
Datafile
R120315B_1.cor
Unfilt_Pos
9
Filt_Pos
9
Data_Dicti
Generic
GPS_Week
1508
GPS_Second
339995
GPS_Height
1288.136
Vert_Prec
1.3
Horz_Prec
0.8
Std_Dev
0.465761
Northing
1313654.903
Easting
2487028.663
Point_ID
36
Identified 1 feature

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Edl, Michele

From: Farmer, Neal
Sent: Friday, August 01, 2014 8:03 AM
To: Edl, Michele
Subject: dietrich canal hydrogeology

Michele...not much info on the hydrogeology as there hasn't been many wells drilled ...given that it appears to be all basalt for several hundred feet and a depth to water table of about 200 feet....that's about all we know.

Neal

SCANNED

Edl, Michele

From: Farmer, Neal **WR# 37-7842**
Sent: Friday, July 11, 2014 9:44 AM
To: Edl, Michele; Keen, Shelley
Subject: BLM agreement for flood water release south of Richfield along Dietrich canal attached
Attachments: BLM Cooperative Agreement I-05-63 (Richfield site).pdf

Just fyi...here is the agreement to release flood waters out of the Dietrich canal onto BLM land that we discussed yesterday...no mention of authorized use as a recharge site.

Neal

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IN REPLY REFER TO

2800

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Shoshone District Office
P.O. Box 2 B
Shoshone, ID 83352

June 15, 1982

Lou Pence
Soil Conservation Service
Wood River Resources RC&D
131 East Avenue E
Gooding, ID 83330

Dear Lou:

Enclosed is a copy of the flood control cooperative agreement I-05-63 that you requested. It should have all the requirements that would be expected of the cooperators, if they should need to use the public lands for this purpose.

Also enclosed is Information Bulletin No. 2, which explains what is required for filing an application for a right-of-way on public lands. You will also find an application form that must be used when making an application. All rights-of-way filings are now sent to this office.

If I can be of further help, please let me know.

Sincerely,

Ervin Cowley

Ervin Cowley
Monument Area Manager

Enclosures

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COOPERATIVE AGREEMENT
I-05-63

BETWEEN

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
SHOSHONE DISTRICT OFFICE
P.O. BOX 2B
SHOSHONE, ID 83352

AND

MUTUAL AGREEMENT OF:

GOODING COUNTY COMMISSIONERS
GOODING, IDAHO 83330

LINCOLN COUNTY COMMISSIONERS
SHOSHONE, IDAHO 83352

CITY OF GOODING
GOODING, IDAHO 83330

CITY OF SHOSHONE
SHOSHONE, IDAHO 83352

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D. Contractor

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B. Cooperator

C. Mutual Agreement

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COOPERATIVE AGREEMENT
- I-05-63

I. PURPOSE:

The purpose of this agreement is to establish mutual guidelines and provide procedures and authorization so the cooperators can enter public lands administrated by the Bureau of Land Management (BLM) for flood control purposes. The public lands will only be used when there is an emergency to alleviate the dangers of flooding the communities of Shoshone and Gooding and when the natural drainage capacity of the Little Wood River and other canal laterals are insufficient to contain the water.

II. AUTHORITY:

A. Bureau of Land Management:

Section 307, Federal Land Policy and Management Act of 1976, P.L. 94-579, 43 U.S.C. 1737.

B. Cooperators:

III. AGREEMENT AREA

This cooperative agreement will involve only public lands located within the Shoshone BLM District, and described as follows:

T. 5 S., R. 19 E., Boise Meridian, Lincoln County, Idaho		
Section 2:	SW4NE4, SW4, NW4SE4	240 acres
Section 3:	SE4	160 acres
Section 8:	SE4	160 acres
Section 9:	S2	320 acres
Section 10:	NE4, W2, W2SE4	560 acres
Section 11:	NW4NW4	40 acres
Section 15:	NE4NW4, W2W2	200 acres
Section 17:	ALL	640 acres

There are 2,320 acres of public land in the agreement area which is considered a desert environment. The State of Idaho owns 640 acres contiguous on three sides to the agreement area and identified as Section 16, which is not part of this agreement.

The agreement area lies entirely within the Richfield Pasture of the Dietrich Butte Grazing Allotment. This allotment currently has 10 livestock operators who may use up to 5,419 active cattle AUMs each year. Also, there is fall sheep use on these lands by another livestock operator having grazing preference in the adjoining Wildhorse Allotment. Idaho Power Company has a 46 kv transmission line that traverses the tract with a 50 ft. right-of-way. The Dietrich Canal is also authorized by a right-of-way. This agreement is continuing the existing use of the lands for flood control purposes and is no way authorizing addition or new development to occur.

IDWR 42

IV. DEFINITIONS

A. Bureau of Land Management (BLM):

The agency in the Department of Interior that has management responsibilities on those lands covered by this agreement.

B. Cooperators:

The governmental bodies of Lincoln and Gooding Counties and the cities of Shoshone and Gooding that have jointly agreed to the provisions of this agreement for the common purpose and effort of controlling flood waters along the Little Wood River.

C. District Manager:

The authorized officer in the Bureau of Land Management who has been delegated the responsibility, by the Secretary of the Interior, for the management of public lands within the Shoshone District.

D. Contractor:

All companies, groups, individuals, or agents to include federal and state agencies who are retained by the cooperators in their flood control program for the operation of this agreement.

E. Degradation:

The changing, altering, or lowering in character and quality of the lands as a result of the cooperators use through vegetative and soil disturbance, creating a negative or undesirable effect on the environment. This may be the effects from, but not limited to, the hydraulic action of flood waters or the disturbance by vehicles or heavy equipment.

V. OPERATION AND RESPONSIBILITIES

The Bureau of Land Management, acting through the District Manager, and the Cooperators, acting through the respective mayors and commission chairmen, agree as follows:

A. The Bureau of Land Management will:

1. Provide only the land used in the operation of this agreement.

2. Continue to allow existing uses on the subject lands and any additional uses which are compatible with this agreement. Existing uses on the subject land may include, but are not limited to recreation, minerals, livestock grazing, wildlife habitat, and public access.

B. The Cooperators will:

1. Provide all labor, material, equipment, and money needed in the maintenance programs, rehabilitation, or studies authorized by the cooperators for the operation of this agreement.

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2. Exercise every reasonable precaution to prevent the degradation of all resources and shall rehabilitate the area, both inside and outside of the agreement area, which has been subject to degradation by the cooperators or their contractor's use.

3. Restrict operations to the existing roads or trails if vehicular equipment is used within the agreement area and no new roads will be constructed.

4. Indemnify and hold harmless the Bureau of Land Management, its officers, agents, and employees, from any and all damages and claims for damages of every description or kind whatsoever which may result from the exercise of privileges granted by this agreement or which may result from the exercise of any of the rights reserved herein.

5. Be subject to the provisions of Executive Order 11246 of September 24, 1965, as amended, which sets forth the Equal Opportunity clauses. A copy of this order may be obtained from the district manager.

6. Be responsible for the prevention and suppression of all range fires resulting from their own or their contractor's actions. This includes responsibility for suppression costs incurred by any party in controlling such fires that are determined to be the cooperator's responsibility.

7. Allow authorized representatives of the Bureau of Land Management and the general public the right of unrestricted ingress and egress within the agreement area.

8. Remove from the public lands all trash, litter, garbage, and other items originating from the cooperators and contractor's use.

9. Notify the district manager immediately if damage has occurred to public lands within or outside the agreement area as a result of the operation of this agreement.

10. If additional development is needed, beyond that which now exists, to prevent flood waters from overflowing the use area to external lands, provide the district manager with detailed plans for such development, 30 days in advance, for review and concurrence.

C. Other Items Mutually Agreed by the Bureau of Land Management and Cooperators:

1. This agreement in no way abrogates BLM responsibility and authority as set by the Federal Land Policy and Management Act (Public Law 94-579, 90 Statutes 2743), for management of the subject lands.

2. None of the items covered in this cooperative agreement are to be construed as obligating either party to the expenditure of funds in excess of authorized appropriations.

3. This agreement shall remain in full force and effect until modified or terminated by mutual agreement of BLM and the cooperators. This will be accomplished by a 30-day written notice by either party on the other.

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Any proposals to change, modify, or otherwise alter any part of this agreement must have total concurrence by all the cooperators and BLM.

4. This agreement or any interest therein shall not be transferred or assigned without prior approval, in writing, of the district manager and the cooperators.

5. All tools, equipment, and other property taken upon or placed upon the public land by the cooperators or contractor during maintenance or rehabilitation efforts, shall remain the property of the cooperators or contractor and will be removed by the cooperators or contractor within a reasonable time after completion of their work. If they are not removed as directed by the district manager, within a reasonable time, then trespass actions can be taken towards the cooperators or contractor under the provisions of 43 CFR 9230.

6. No rental or use fees will be charged for the use of the public lands involved with this agreement. However, all damage and rehabilitation of the lands will be the responsibility of the cooperators or contractor use. If mineral materials such as gravel, fill dirt, etc., are needed for any phase of maintaining or rehabilitating the subject land, the cooperators will notify BLM. These materials shall be applied for under the provisions of 43 CFR 3610 and 3620, whichever is applicable.

D. Effective Date

This cooperative agreement will be in full force and effect as of the last date signed.

FLOOD CONTROL COOPERATORS

LINCOLN COUNTY COMMISSIONERS

O. J. HARRIS, CHAIRMAN
SHOSHONE, IDAHO
4-10-81
DATE

GOODING COUNTY COMMISSIONERS

RICK BRAILSFORD, CHAIRMAN
GOODING, IDAHO
4-10-81
DATE

CITY OF SHOSHONE

ELWOOD WERRY, MAYOR
SHOSHONE, IDAHO
4-6-81
DATE

CITY OF GOODING

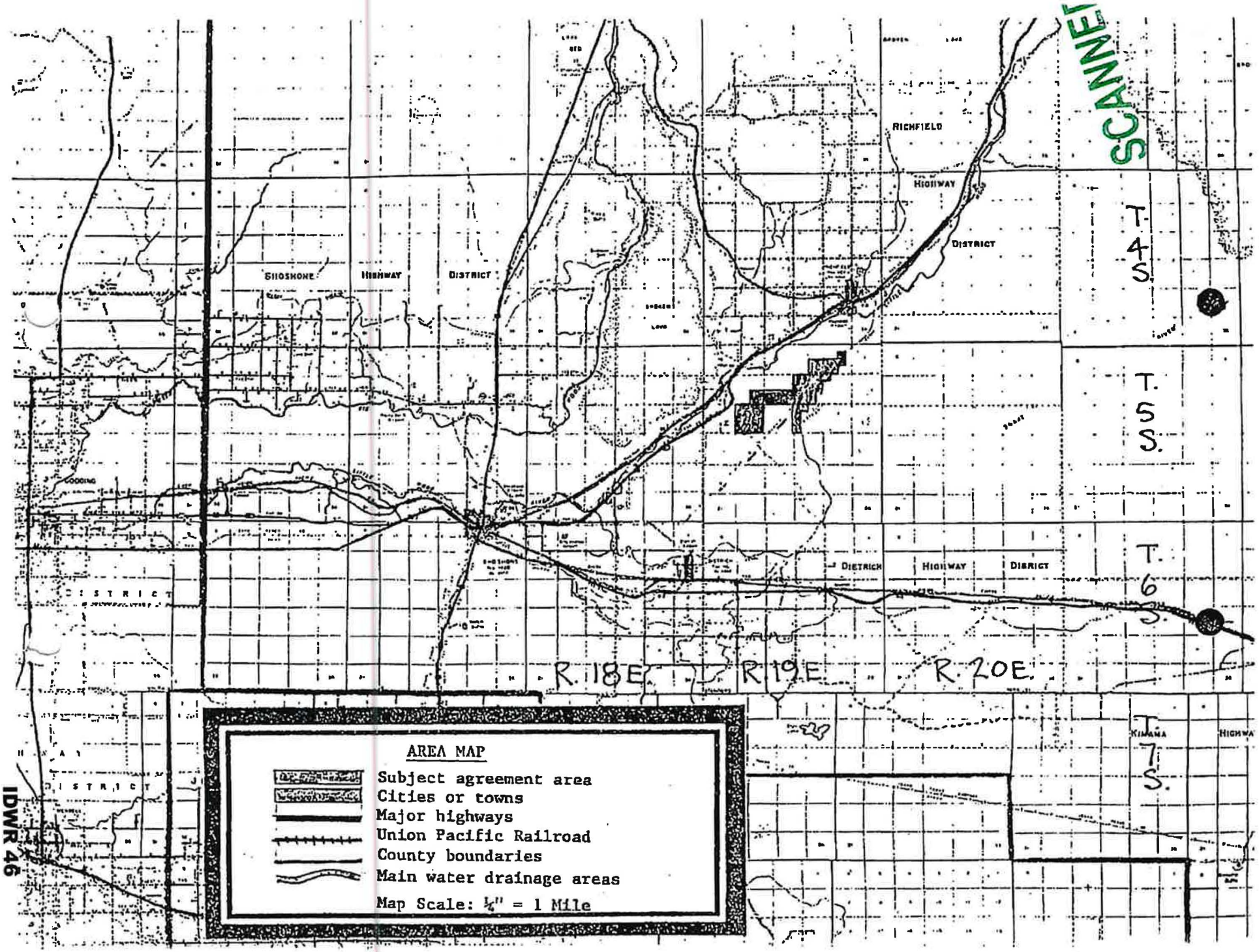
J. E. HELLER, MAYOR
GOODING, IDAHO
4-17-81
DATE

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

for CHARLES J. HASZIER
SHOSHONE DISTRICT MANAGER
SHOSHONE, IDAHO

20 April 1981

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SCANNED
RICHFIELD
HIGHWAY
DISTRICT
SHOSHONE
HIGHWAY
DISTRICT
T. 4 S.
T. 5 S.
T. 6 S.
T. 7 S.
R. 18 E.
R. 19 E.
R. 20 E.
AREA MAP
Subject agreement area
Cities or towns
Major highways
Union Pacific Railroad
County boundaries
Main water drainage areas
Map Scale: ½" = 1 Mile

IDWR 46



bifurcation 7/9/2014 photo locations WR# 37-7842

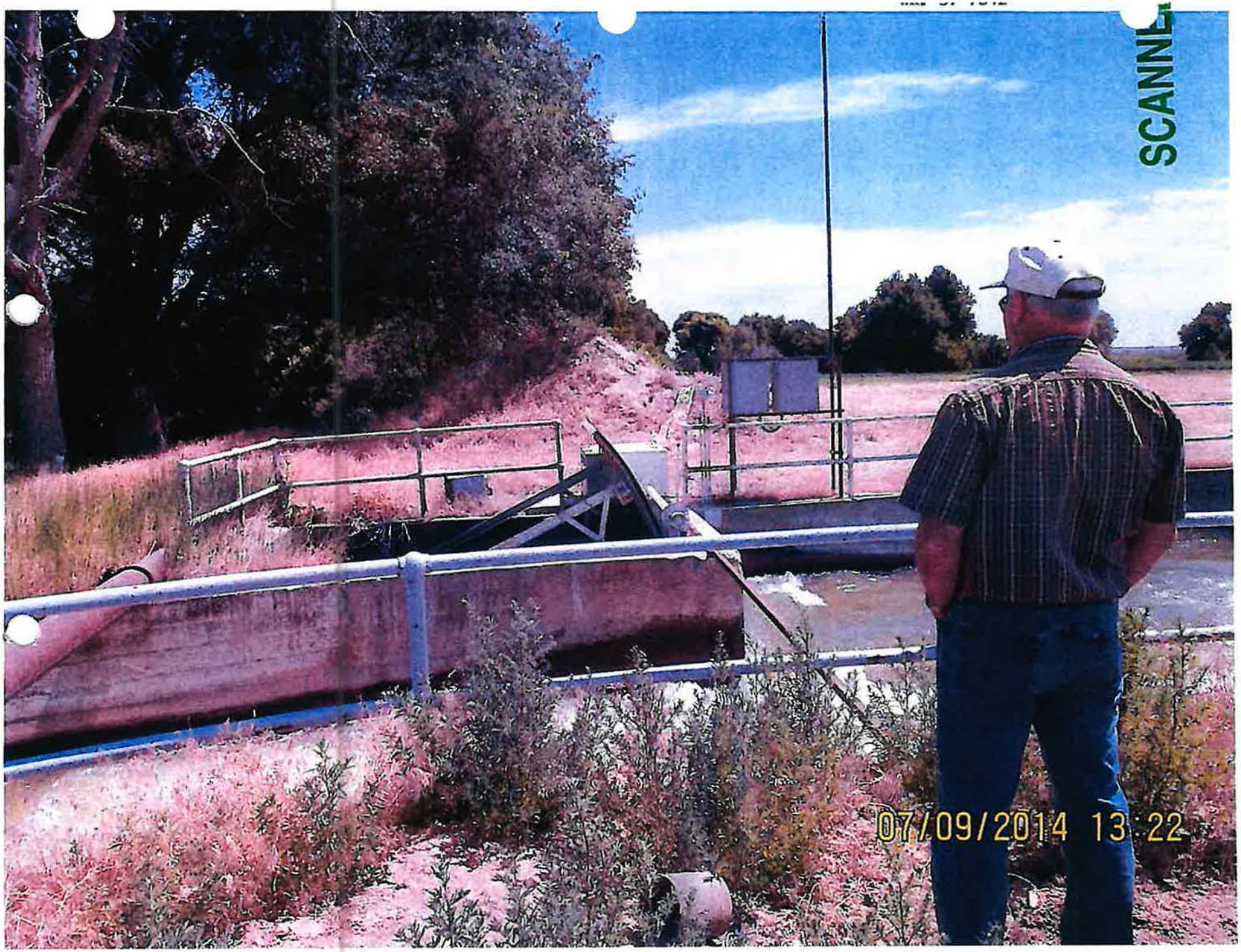
IDWR 47



IDWR 48

IDWR 49

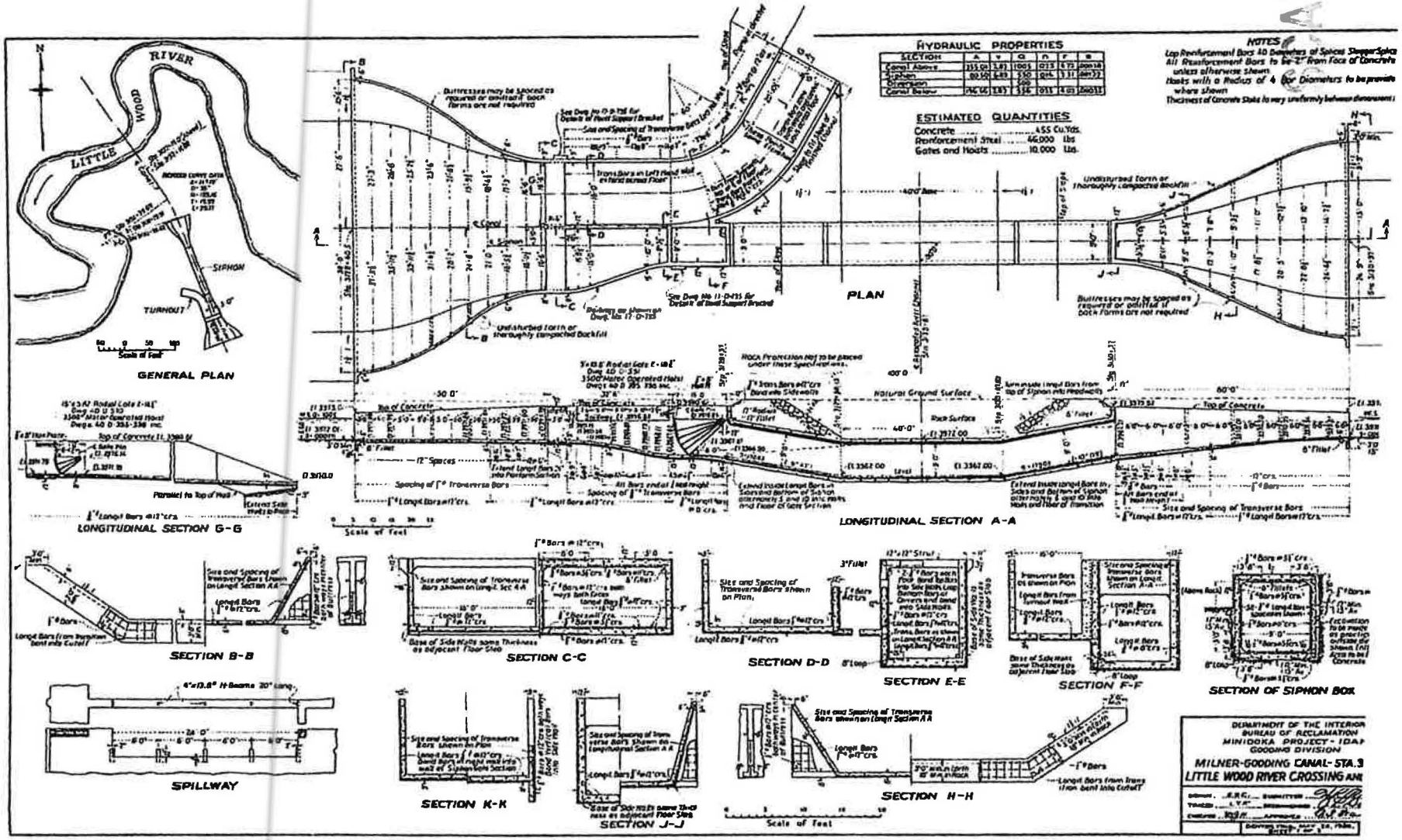
07/09/2014 13:22
WRF 37-7842
SCANNED



IDWR 51

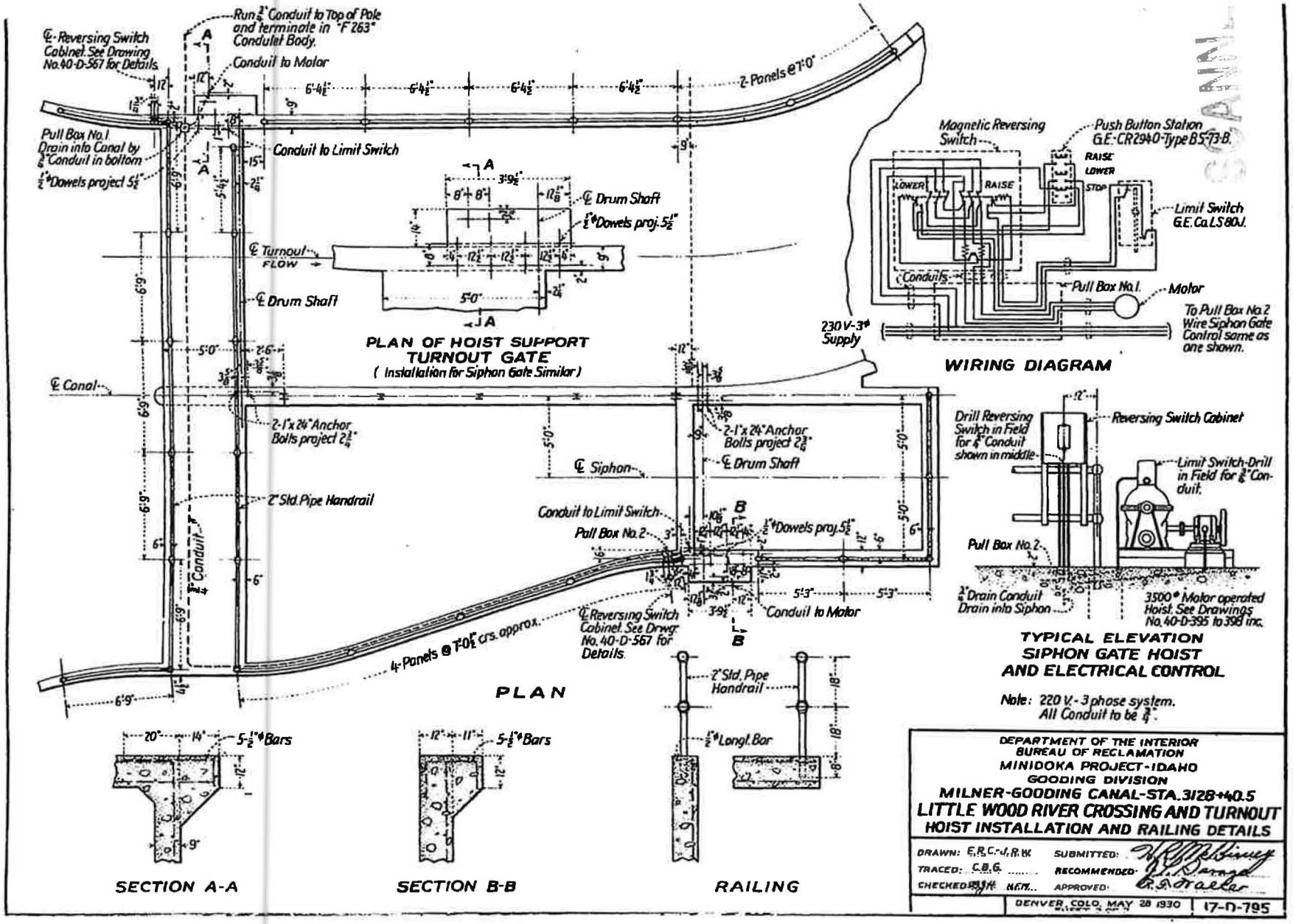
NNW
07/09/2014 13:21

Bifacation Works



copy of the bifurcation engineering drawing provided by BWCC 7/9/14
WR# 37-7842

IDWR 53



IDWR 54

copy of the bifurcation engineering drawing provided by BWCC 7/9/14
WR# 37-7842

S. Keen's notes RE: Permit 37-7847
7/9/2014

(1)

Difference between 54 + 14 on the LWR could be attributable to losses during high flows. Unlikely that water came from ~~Milner~~ LWR into Milner Gooding because flows were 400+ cfs in the canal.

at Shoshone ⇒ Lynn doesn't think getting LWR water into the canal with 400 cfs in the canal is possible.

No losses from 56 to 57.

Canal is flat from 53 to 56. Can make it look like a gaining reach by setting gates.

April 1984 228' to 258' in the Dietrich Main Canal flood runoff from LWR + BWR to the floodway. Huge area

May 30 still 220 cfs ↖

Would normally run 100 to 150 cfs for irrigation in late May. Would have to find dumped water.

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Anything over 150 cfs was probably being dumped. Lynn thinks this would be a conservative estimate. (From District canal early in the irrigation season.

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Edl, Michele

From: Lynn Harmon [lynnharmon@cableone.net]
Sent: Tuesday, June 17, 2014 6:58 AM
To: Edl, Michele
Subject: RE: original readings and rating table WR# 37-7842

Michele, The water source is from Big wood river via the Richfield Main and Jim Burns Slough

From: Edl, Michele [mailto:Michele.Edl@idwr.idaho.gov]
Sent: Monday, June 16, 2014 6:26 PM
To: Lynn Harmon
Subject: RE: original readings and rating table

Mr. Harmon,
I have had a chance to compare the field examiner's report with the page of the measurement log that you have provided.
The field examiner's report has spreadsheet with a column labeled with the heading 'JBS'. I am assuming that that signifies the Jim Burns Slough.

My question:
What is the source of water that is traveling in the Jim Burns Slough before it crosses Hwy 93 and joins the Little Wood River?
Thank you.
Michele Edl

From: Lynn Harmon [mailto:lynnharmon@cableone.net]
Sent: Friday, June 13, 2014 11:47 AM
To: Edl, Michele
Subject: original readings and rating table

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Keen, Shelley

From: Joe [joe@brownjameslaw.com]
Sent: Friday, April 04, 2014 11:43 AM
To: Keen, Shelley
Subject: Permit No. 37-7842
Attachments: History.pdf; Exhibits.pdf

Dear Mr. Keen:

I write in follow up to our recent telephone conversation regarding Permit No. 37-07842 and the Department's investigation for licensing. I have attached a history regarding the subject water right. The history raises several concerns regarding licensing on the permit.

However, we do have a couple of primary concerns. First, the Department may not be aware that it is impossible to divert water from the Little Wood River through the Gooding Milner Canal at the denoted diversion structure when the Gooding Milner Canal already contains water. For your review, I have attached a couple of exhibits which were included with the Beneficial Use Field Report submitted to the Department in November 1993. The first page of exhibit is a map which shows the measuring stations, diversion structure, and recharge site regarding both permit number 01-07054 and 37-07842. The second page of the exhibit is a Summary of Recharge Records, again, under both permits.

The Field Report appears to indicate that the waters were comingled at the point of the diversion structure where the Gooding Milner Canal crosses the Little Wood River commonly referred to as "the Bifurcation." It is possible to divert water from the Little Wood River into the Gooding Milner Canal at the Bifurcation. However, in order to do so it is necessary to back up the water in the Little Wood River to force the water to go up gradient into the Gooding Milner Canal system. This can only be done when the Gooding Milner Canal is empty. Otherwise the water from the Gooding Milner Canal would simply dump into the Little Wood River.

This fact is recognized by the managers of the Big Wood Canal Company in American Falls Reservoir District #2. This fact provides support for the comments in the Department's file indicating that no recharge took place from the Little Wood River prior to June 1, 1992.

In reviewing the Summary of Recharge Records shows several errors. Some rather obvious. As an example, the columns denoting max possible recharge from Big Wood and max possible recharge from Snake River, appear to be in error in that the numbers under the columns should be in the opposite column based on the formula provided. Also, there is simply straight forward errors such as on April 8, 1986, where it denotes 260cfs was measured at Measuring Station No. 57 resulting in 260cfs recharge possibly from the Big Wood River. When in actuality Measuring Station No. 57 is beyond the recharge site. It would appear to be prudent to review the canal company records directly to determine what recharge occurred prior to June 1, 1992.

Another issue of primary concern is whether the priority date should be advanced to November 29, 1993, the date when satisfactory proof of beneficial use was received by the Department. The record indicates that the permit lapsed and in the case when satisfactory proof was received by the Department following 60 days of a lapse of the permit, the Department may, upon a showing of reasonable cause reinstate the permit, but in reinstating the permit the Department must advance the priority date of the permit to the date the proof of beneficial use was received. In this case, November 29, 1993.

Please review the issues raised in the provided history. If you have any questions, please feel free to give me a call.

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Thanks for your time and consideration.

Joe

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RECEIVED
APR 07 2014
Department of Water Resources

History
Permit 37-07842

An application was filed on July 2, 1980 seeking a permit to divert 800 cfs from the Little Wood and Big Wood Rivers for purposes of ground water recharge. (Application for Permit 37-07842). The application denoted the point of diversion as the SW¼ of SE¼ of Section 24, Township 4 S, Range 19 E, located within Lincoln County. *Id.* The application proposed diverting the water through the use of the Dietrich and Richfield canal systems. *Id.* It should be noted that neither the Little Wood nor the Big Wood Rivers flow though Section 24, Township 4 S, Range 19 E. However, the Dietrich canal diverts from the Little Wood River in Section 25, Township 4 S, Range 19 E. The Department recognized these errors during an early review and made a note to the file indicating that the point of diversion on the application was in error, and that the only apparent source of water would be the Little Wood River. (Note to File 12-29-81). The applicants never sought to amend their application.

The application was incomplete as to the description of the proposed place of use, but did include a drawing indicating that the water would be diverted from the Little Wood River through the Dietrich Canal to the recharge site southeast of Richfield, Idaho. (Application for Permit 37-07842). The published notice of application for water right clarified that the possible recharge sites were located within Sections 15, 16, 21, 22 and 28, Township 5 S, Range 19 E, Lincoln County. (Affidavit of Publication). The application indicated that five years was required for completion of the works and application of the water for recharge. (Application for Permit 37-07842).

The subject application sought a permit to divert water from the Little Wood River through the Dietrich Canal for purposes of recharge southeast of Richfield. (Application for Permit 37-07842). The applicants filed another application on the same day seeking to divert

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water from the Snake River through the Milner-Gooding Canal for purposes of recharge northwest of Shoshone, Idaho. (Application for Permit 37-07842). This other application was ultimately assigned Permit No. 01-07054.

The subject application was approved on June 2,1982, under Permit No. 37-07842, with a completion and submission of beneficial use deadline of June 1, 1987. (Application for Permit 37-07842). A request for extension of time was submitted on June 1, 1987. (Request for Extension 6-1-87). The request was returned by the Department to the applicant on July 16, 1987, for additional information. (IDWR./Saxton ltr 7-16-87). Ultimately, the Department approved the request for extension on October 4, 1989, extending the completion and proof of beneficial use deadline to June 1, 1992. (Request for Extension 6-1-87).

The Department sent a notice of proof of beneficial use due on March 31, 1992, providing notice that proof of beneficial use had to be submitted no later than June 1, 1992. (Proof Due Notice 3-31-92). Proof of beneficial use was not timely submitted and the Department sent a lapsed notice on June 5, 1992. (Lapse Notice 6-5-92). The Department received proof of beneficial use on or about June 15, 1992. (IDWR./Gustafson ltr 6-15-92). The Department returned the proof of beneficial use form to the applicants on June 15, 1992, stating that the proof was unacceptable. *Id.* The Department further informed the permit holder that the permit was still lapsed, and that the priority date would be penalized one day for every day that the proof was not submitted. *Id.* On July 9, 1992, the Department received a beneficial use field report regarding the permit, but did not receive the original proof of beneficial use form. (IDWR/Gustafson ltr 7-9-92). The Department informed the permit holders that they could not continue licencing until it received the original proof of beneficial use form. *Id.* On July 23,

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1992, the Department again provided notice that they could not process the permit without an original proof of beneficial use form. (IDWR/Gustafson ltr 7-23-92).

On July 27, 1992, the Department received the original proof of beneficial use form. (Proof Beneficial Use 37-07842). The form listed both Permit No. 37-07842 and Permit No. 01-07054. *Id.* The proof of beneficial use indicated a total of 300 cfs of ground water had been diverted from the Snake River. *Id.* The beneficial use field report denoted the source as the Snake River, provided a point of diversion different from the application, as well as different place of use. *Id.* The beneficial use field report also denoted that the water was diverted through the Milner-Gooding Canal and not the Dietrich Canal. (Field Report 37-07842). The Department accepted the amended proof of beneficial use and beneficial use field report. The Department entered its order reinstating the permit and advancing the priority date to August 25, 1990 on the 29th day of July, 1992. (Order of Reinstatement 7-29-92).

On further review, the Department determined that the beneficial use field report was not acceptable. The applicants provided an amended beneficial use field report on October 19, 1993. (IDWR/Saxton ltr 10-21-93). The Department determined that the amended beneficial use field report was still not acceptable and returned it to the applicants on October 21, 1993. *Id.* On November 29, 1993, the Department received another amended beneficial field report denoting both Permit No. 01-07054 and Permit No. 37-07842 with a total diversion of 300 cfs. (Amended Field Report 37-07847). This time the beneficial use field report indicated the source as the Snake River/Big Wood River but did not include the Little Wood River. *Id.* Also, the field report indicated a diversion point distinct from application for permit. *Id.* Again, the total diversion rate was stated at 300 cfs. *Id.* The Department entered a reinstatement order regarding

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both permits on December 1, 1993. (Reinstatement Order). The Department failed to advance the priority date in recognition of the continuing lapse. *Id.*

There appears to be little activity in the file until 1999 when the permit holders were anticipating transferring legal ownership to the Idaho Water Resources Board. On March 19, 1999, the Idaho Water Resources Board agreed to accept assignment of the permits. (IDWR/Hass ltr 3-22-99). In its review leading up to the acceptance of the assignment, the Department indicated that both Permit No. 01-07054 and Permit No. 37-07842 had filed proof of beneficial use for diversion rate of 300 cfs each. (Memo to File 1-14-99). This is incorrect. As noted above, the Proof of Beneficial Use form, as well as the Beneficial Use Field Report indicated a combined total of 300 cfs, with the water coming from the Snake River via the Milner-Gooding Canal.

The conclusion that a total of 300 cfs from the Snake River had been put to beneficial use is supported by the Department's own internal review of the permits. A Memo to the file in October 1999 indicated that recharge under Permit No. 01-07054 from the Snake River through the Milner-Gooding Canal could be confirmed and the license for that has been prepared for signature. (Memo to File 10-7-95). However, regarding Permit No. 37-07842 there did not appear to be any application toward beneficial use. Based on the Department's conversation with Dan McFadden of the Lower Snake River Aquifer Recharge District, no ground water recharge had ever taken place from the Little Wood River via the Dietrich Canal. *Id.* Also, based on the Department's conversation with Paul Castelin of the Technical Services Bureau, no recharge from the Little Wood or Big Wood River had taken place. *Id.* The Department concluded that there has been no beneficial use to date and that the permit should be routed for extension or reinstatement processing. *Id.* This conclusion was further supported by the

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correspondence from the Big Wood Canal Company and American Falls Reservoir District #2 of November 1999, which clarified that all recharge water from 1986 through 1995 was Snake River water delivered via the Milner-Gooding Canal. (Oneida ltr 11-99).

Though the Department's file contains a proof of beneficial use form and beneficial use field report, which has not been withdrawn, the Idaho Water Resources Board adopted a resolution asking the Director to extend the proof date regarding the "undeveloped" portion of the permit. (WRB Resolution 3-21-00). An order was entered on April 3, 2000 extending the proof date for the permit until June 1, 2004. (IDWR 4-3-00). On August 25, 2004, the Idaho Water Resources Board again requested for an extension of time to submit proof of beneficial use resulting in another extension to June 1, 2009. (Request for Extension 8-25-04). On June 1, 2009, the Department received another request for extension of time to submit proof of beneficial use. (Request for Extension 6-1-09). On March 19, 2010, while the request for extension of time was pending, the Director indicated "[It] does not appear the beneficial use of water for recharge purposes has occurred under this permit to date, despite the confusion in the record on this issue." (IDWR./Spackman ltr 3-19-10). The request for extension was granted on the 2nd day of September 2010 and the time within which to submit proof of beneficial use was extended to June 1, 2014. (Request for Extension 6-1-09).

My clients filed a Petition for Hearing, and Petition for Declaratory Ruling on September 22, 2011. In November of 2011, the Hearing Officer issued a Recommended Order wherein he found the Department's actions in granting a series of extensions void and rescinded the Department's order of September 2nd 2010 granting an extension of time within which to submit proof of beneficial use. The hearing officer noted that "The Department will investigate the extent of beneficial use occurring prior to June 1, 1992 as part of the licensing process." (Rec.

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Order 11-30-11). If IWRB or the Petitioners disagree with the Department's determination of beneficial use occurring within the authorized development period, the proper venue to raise arguments regarding the true extent of beneficial use would be the licensing process." *Id.* Accordingly, the Hearing Officer ordered: "The Department shall conduct an investigation of Permit 37-7842 for licensing purposes and issue a license consistent with its findings." *Id.* The Director adopted the Recommended Order as his Final Order on February 28, 2014. (Final Order 2-28-12)

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Exhibit For
Lower Snake River Aquifer Recharge
Permit No's. 01-07054 & 37-07842

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Department of Water Resources

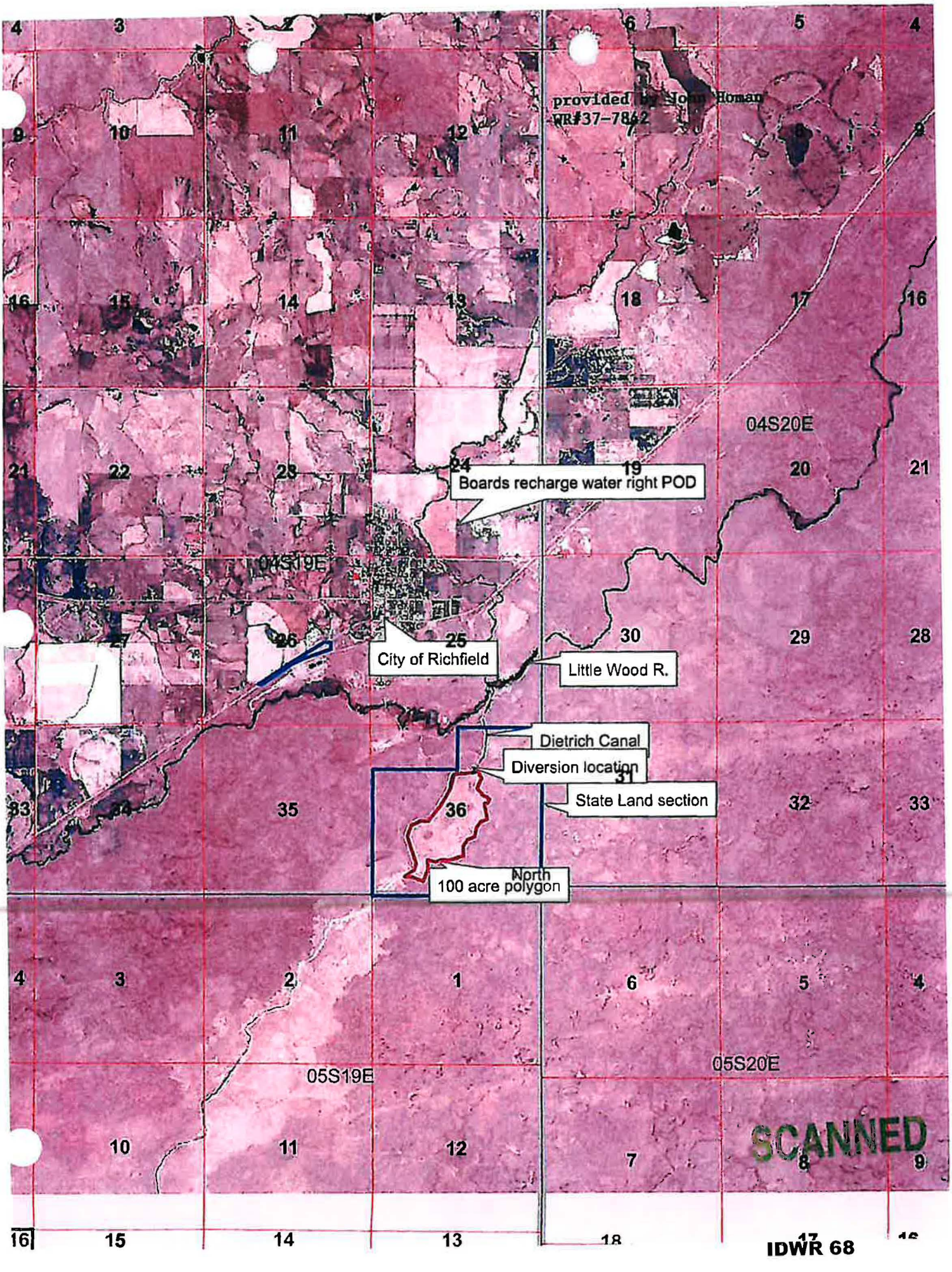
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Summary of Recharge Records for Lower Snake River Recharge Permit No. 01-07054 & 37-07842

DATE	MEASURING STAT ON JBS	14	53	54	56	57	RECHARGE	MAX POSSIBLE RECHARGE FROM BIG WOOD	MAX POSSIBLE RECHARGE FROM SNAKE RIVE
04-07-86			220		252	252	0		
04-08-86						260	260	260	
04-09-86		646	425		432	260	172	172	
04-10-86			401		448	265	183	183	
04-11-86	97	692	472		460	265	195	195	97
04-12-86	57		472			261	261	261	57
04-13-86	62					270	270	270	62
04-14-86	66	717	486	787	486	275	211	211	66
04-15-86	52	681	485	721	482	252	230	230	52
04-16-86	57	659	479	689	470	239	231	231	57
04-17-86	43	636	405	674	496	223	273	273	43
04-18-86	40	604	614	628	632	310	322	322	40
04-19-86	73	556	596	564	618	342	276	276	73
04-20-86	142		596	563			---	---	142
04-21-86	141	615	596	651	618	342	276	276	141
04-22-86	50	526	585	544	604	350	254	254	50
04-23-86	221	454	566	544	580	360	220	220	220
04-24-86	213	596	572	636	586	396	190	190	190
04-25-86	168	560	563	585	580	394	186	186	168
04-26-86	181	500	644	524	654	340	314	314	181
04-27-86	172		644	530				---	172
04-28-86	165	615	696	537	648	466	182	182	165
04-29-86	158	580	670	503	626	465	161	161	158
04-30-86	142	506	661	420	616	459	157	157	142

JBS - Jimmy Byrnes Slough
All flows in CFS as recorded by Bigwood Canal Co.
Recharge = 56-57
Max Recharge (from Snake River): Total discharge but not to exceed flow at M.S. 53. M.S.
Max Recharge (from Big Wood River): Total discharge from JBS but not to exceed total dishcarge.
Measuring stations 14+56 should approximately total measuring stations 53+54

IDWR 67


provided by John Homan
WR#37-7862
Boards recharge water right POD
City of Richfield
Little Wood R.
Dietrich Canal
Diversion location
State Land section
North
100 acre polygon
04S19E
04S20E
05S19E
05S20E
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IDWR 68

MEMORANDUM

DATE: February 27, 2014

TO: Water Right File 37-7842

FROM: Shelley W. Keen SWK

RE: Conversation with Attorney Joe James

This morning I spoke with attorney Joe James (208-934-8185) about the licensing review effort for Permit 37-7842. Mr. James said he represents a group of hydropower producers who do not believe there was any beneficial use of water established in connection with the permit. Mr. James's allegation is that water cannot be diverted from the Wood River into the Milner-Gooding Canal when there is Snake River water in it because of the head differential. Therefore, any water conveyed to recharge would have been from the Snake River.

I invited Mr. James to email me his concerns in detail. I indicated that if he did so, IDWR would evaluate and account for them in its license review.

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MEMORANDUM

Date: November 06, 2013

To: Water Right File 37-7842/1-7054

From: Michele Edl

Re: recharge capacity

Initial review

This permit authorizes 800 cfs comingled from both the Big - Little Wood Rivers and the Snake River to be put to beneficial use for groundwater recharge. In spite of a series of processing actions after the amended Beneficial Use Field Report was accepted in 1993, the right is limited by the Proof of Beneficial Use statement to 300 cfs.

The recharge event confirmed by the examiner occurred in April 1986. Discharge data from USGS station #13142500, Big Wood River below Magic Dam near Richfield ID, confirms that Magic reservoir filled early that year and a significant quantity of water was released from the impoundment before the irrigation season began. See the attached graph.

ESPA Modeling

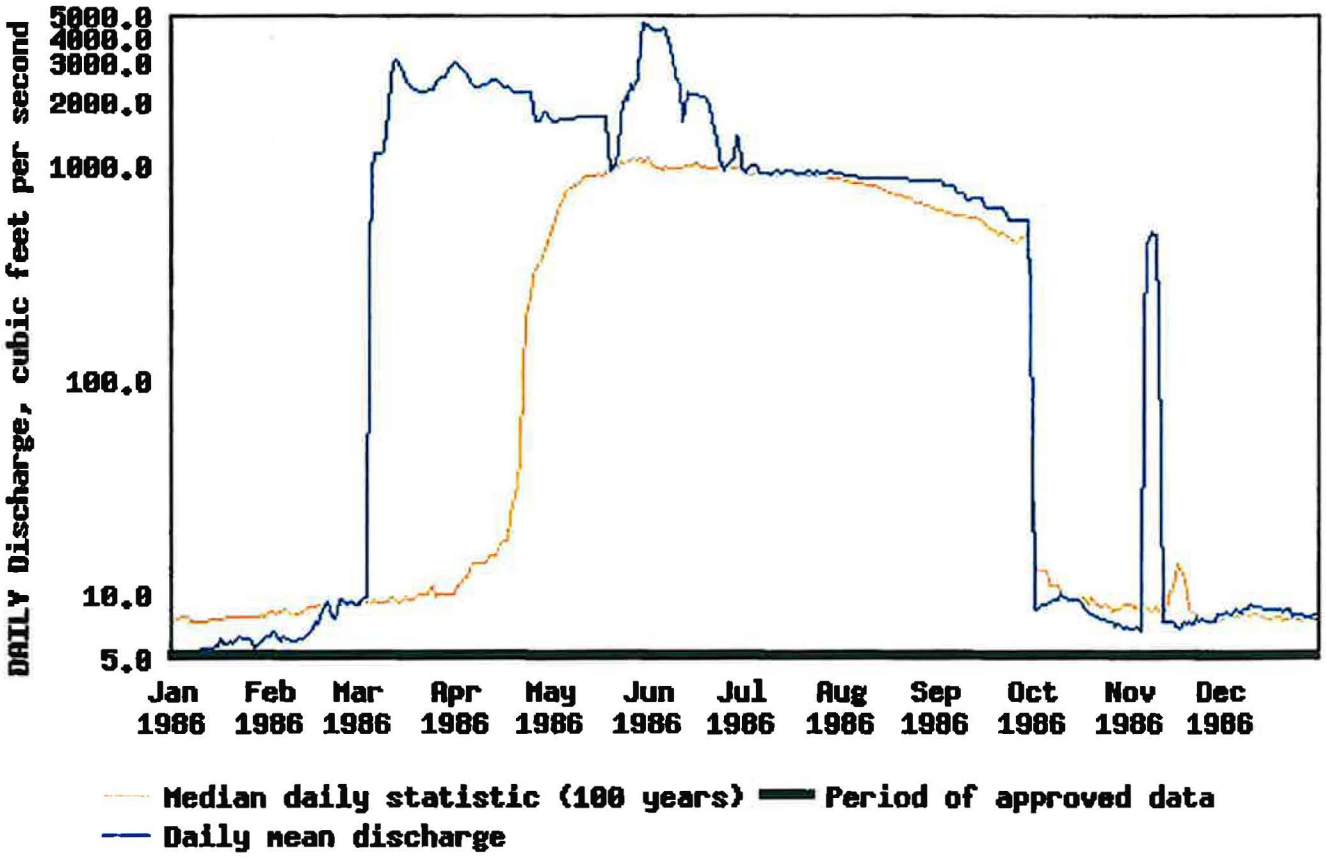
On October 22, 2013, I attended a seminar presentation by Mike McVay (Technical Hydrogeologist, State Office, IDWR). A copy of the seminar announcement is attached. As a result, I recognized similarities between the place of use authorized by this permit and the Shoshone site described in Mr. McVay s presentation. And I anticipated that elements of this water right had been analyzed by Mr. McVay as part of his recharge investigation.

I emailed Mr. McVay a request to confirm if 300 cfs could be beneficially used for recharge at the POU location of this permit. In short, his answer was yes. However, he also stated that the site does have limits on its ability to accept recharge. This site cannot utilize the 800 cfs originally authorized by the permit. It is limited by the infiltration rate to 695 AF or ~ 350 cfs at most.

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USGS

USGS 13142500 BIG WOOD RIVER BL MAGIC DAM NR RICHFIELD ID



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Idaho Water Resources Research Institute
Water Resources and Hydrology Seminar

IDAHO WATER RESOURCES RESEARCH INSTITUTE

Title: "Using the ESPAM2,1 Aquifer Model to Evaluating Recharge on the Eastern Snake Plain"

Presenter: Mike McVay, IDWR

Date: Tuesday, Oct 22, 2013, 11:30-12:20 Mountain Time
10:30-11:20 Pacific Time

Locations: **UI-Boise @ Idaho Water Center – Classroom 162**
Idaho Falls @ University Place, Tingy Admin Bldg., 350A
UI-Moscow @ Education Bldg Room 103
Pocatello @ ISU Oboler Library Room B06

Abstract:
Water levels in the Eastern Snake Plain aquifer have been in decline since the 1950's. One mechanism for stabilizing water levels is managed aquifer recharge. However, limited resources require that managed recharge be done efficiently and effectively. Groundwater modeling provides a powerful tool for evaluating recharge activities, but it must be used responsively.

Biographical Info:

Mike McVay is a Technical Hydrogeologist at the Idaho Department of Water Resources. He earned a Bachelor's of Science in Geologic Engineering and a Master's of Science in Hydrology from the University of Idaho. Mike is currently employed at the Idaho Department of Water resources and specializes in aquifer characterization and groundwater modeling. Mike is also registered as both a professional geologist and a professional engineer in the State of Idaho.

The IWRRI Hydrology Seminar Series is open to all interested professionals, legislators, water supply managers, local government representatives, attorneys, students and interested public. Please pass this announcement on to anyone you think may be interested. If you would like to be removed from this list or know someone who should to be added please contact: Deborah Wold (208) 332-4430 or dwold@uidaho.edu.

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Edl, Michele

From: McVay, Michael
Sent: Tuesday, November 05, 2013 9:54 AM
To: Edl, Michele
Subject: RE: recharge water right 37-7842

Hi Michelle,

Fortunately for us, we have already modeled recharge at the Shoshone site in an effort to prioritize recharge locations. Part of the analysis entailed investigating the capacity to deliver water to the site and how much the site can infiltrate. I've listed the recharge capacities and how we obtained the information below:

- Diversion Capacity: This is the ability to get water to the site. This number was derived by looking at past recharge effort at the site. The maximum amount of water successfully delivered to the Shoshone recharge site was 19,900 AF/month (19,900/30.5 = **652 Af/day**).
- Infiltration Capacity: This is the ability of the site to infiltrate water. Based on conversations with the canal manager, the maximum infiltration rate is 21,200 AF/month (**695 AF/day**).
- Groundwater Capacity: This is the assessment of "enough room" for recharge. This is based on depth to groundwater and considers if the recharge will immediately return to the surface-water system, or threaten infrastructure. Due to relatively deep groundwater, the site can take **656 AF/day**.
- Recharge you are assessing: In your email you asked if 300 cfs for 21 days is reasonable for recharge. Converting 300 cfs into AF/day is **595 AF/day**.

Therefore, it appears that the 300 cfs applied over 21 days is reasonable. Please feel free to contact me for more information, or if you have any questions about the data.

Best regards,

Mike

From: Edl, Michele
Sent: Sunday, October 27, 2013 7:08 PM
To: McVay, Michael
Subject: recharge water right 37-7842

Mike,
Of my many assignments is one to issue a license for water right 37-7842 which is currently held by the IWRB. It has a colorful past but proof was submitted in the 1990s for 300 cfs put to use as recharge.
I was paying attention during your talk last Tuesday, but I am gonna need your help with confiming the quantity of beneficial use.

The place of use is Tsp 5S 17E sec 22 or ESPAM grid cells **R 42 C 39** and **R 42 C 38**. The site would probably be in your Lower Snake River recharge unit.
Water from the Big Wood and Little Wood were being comingled with a little water from the Snake but it was all conveyed to this location through the Milner-Gooding canal.
The event occurred from April 7 – 30, 1986.

My question: Is 21 days of 300 cfs dumped at this location recharge?

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Thanks
Michele

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