

**STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
IN-OFFICE REVIEW/FIELD REPORT**

Permit No: 75-14467

Does this qualify for an in-office field exam (*IDAPA 035.02.r*)?
Is the permit for:

- Irrigation of 5 acres or less
- Storage of up to 14.6 AF for stockwater purposes only
- Any use other than irrigation or storage, if the combined diversion rate is 0.24 cfs or less

Verify that fees have been paid yes
Fee Schedule: \$50

A. CONTACT INFORMATIONExam/Review Date: 8/8/2014Is the Owner of record correct (y/n): YesIf **NO**: Owner: _____Is the Address of record correct (y/n): yes

If NO: Address: _____

If available:

Phone No: (208)993-0491 E-mail: gbgv16a@yahoo.com
(Primary)

B. POINT OF DIVERSIONN Change in POD (y/n)?

If yes:

Ident No.	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.	County	Method of Determination/Remarks
			SW	NW	11	21N	21E	Lemhi	Existing spatial data point

Method of Determination/Remarks: GIS: there is a spatial data point at the location with GPS accuracyN Amendment Required (y/n)?**C.****D. SOURCE:**1. N Change in Source (y/n)?

If yes:

Source: _____ tributary to _____

2. Method of Determination/Remarks: There is a spatial data point with the diversion name Chipps Arrowhead. According to the data this point of diversion was collected by the BLM by GPS.

N Amendment Required (y/n)?

E. OVERLAP REVIEW POD

Point of Diversion (POD) Overlap: 75-19G shares the same point of diversion system. Several other water rights are also diverted at this location. Site tag: A0014954

 y n) Other water rights with the same point of diversion (POD)?

Research tools: Confirmed by conversation with resident

 X InfoSearch - Query for other water rights with the same POU

 X Use ArcMap for overlapping POU

Water Right No.	Source	Purpose of Use	Basis
See attachment			

F. PLACE OF USE:

1. Change in POU (y/n)?

If yes:

Place of Use			NE				NW				SW				SE				Totals
TWP	RGE	SEC	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
21N	21E	1									X	X							
21N	21E	2																X	
21N	21E	11		X															

2. Method of Determination/Remarks: Gary Leuzinger, the representative of Arrowhead Water District provided the location of the houses for the place of use. The actual shape was take from the tax lot data.

 N Amendment Required (y/n)?

Two tax lot boundaries fall over the quarter quarter boundary into T21N R21E Section 2 NESE. This quarter quarter is not included in the permit. However, in both cases the house itself is within a quarter quarter designated on the permit. Since this water right is for in-house domestic use only, I recommend that no amendment is required.

G. OVERLAP REVIEW POU

1. Place of Use (POU): Four water right/recommendations overlap the quarter quarters of the place of use under this permit. 75-5 and 75-22 and 75-14465 provide irrigation only for the lots in the subdivision. 75-7568 provides domestic for other houses in the subdivision.

2.

 X (y/n): Other water rights with the same place of use(POU)?

Research Tools:

 InfoSearch - Query for other WR's with same POU

 Y POU Comparison Report - Query Tools

 Y Use ArcMap for overlapping POU

This water right supplies irrigation water for outside use at each of the four lots.

Water Right No.	Source	Purpose of Use	Basis
75-22	Chipps Creek	Irrigation	Decree

See attachment for all water rights within the same quarter quarters

For irrigation rights only: NA

H. PURPOSE OF USE:

N Change in purpose of use (y/n):

If yes:

Use _____ From _____ To _____ Amount _____ CFS _____ AFA

Method of Determination/Remarks: _____

Non-irrigation uses:

Domestic # of homes 4

Stock # none

Other: _____

G. DIVERSION RATE:

Calculations: according to our rules 4 households would be entitled to 0.10 cfs

Notes/Remarks: The rate is for in-house use only and does not include lawn irrigation
This water right adds 4 additional households to an existing system.

Based on the permit the diversion rate is 0.02 cfs

H. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: NA

$V = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \text{NA}$
 I.R.

$V = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = \text{NA}$
 D.R.

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

2. Volume Calculations for Other Uses:

I. NARRATIVE/REMARKS/COMMENTS/CHECKLIST

Y Is there enough information to verify the water right in office (IDAPA 035.02.r)?

We need to be able to verify:

Y Beneficial use

Y Place of use

Y Season of use

Y Point of diversion

Checklist (you do not need all of these items):

X Property tax information

 Well driller report

 Receipts

X photographs

X Aerial photography

X Other records of the permit holder – Water Masters Report

in-office/Field Examination Report 75-14467

X Map Attached Showing Location(s) of point(s) of diversion and place(s) of use
(REQUIRED). Scale must be 1:24,000 or greater.

**Have conditions of permit approval been met? ___ Yes X No

NARRATIVE/REMARKS/COMMENTS

Water is diverted from Chipps Creek in T21N R21E Section 11 SWNW. Water flows into a deep trench filled with gravel and is filtered into the 4 inch pipe through holes in the pipe. The 4 inch filter pipe is reduced to a 2 inch pipe just above a volume/flow rate meter that is several hundred feet northeast of the creek. The pipe continues underground approximately 0.8 of a mile to 2 storage tanks on Ben Jone's property.

From there the pipe flows north roughly 0.27 miles to Oliver Drive and continues to Alan Cox's property at 56 Fulton Road. Alan Cox is the last house on the system. Water right 75-19g (domestic) is diverted through this system to provide domestic water to 9 homes and a hydrant(future home). Right 75-14467 provides water for 4 additional homes on the same system.

Water rights 75-5 (irrigation) and 75-22 (irrigation) and water right 75-14465 (diversion to storage) are diverted from the same general location through a separate large pipe system. These rights provide irrigation water through the Arrowhead Water District (AWD) Reservoir and water to fill the AWD Reservoir. AWD also diverts 24 small irrigation rights through this system.

Arrowhead Reservoir is not part of this system.

Conditions:

01J *Prior to diversion of water under this right, the right holder shall install and maintain a totalizing measuring device and lockable controlling works of a type acceptable to the Department in a manner that will provide the watermaster suitable control of the diversion.*

The water master report for 75-A currently reports on the diversions for Arrowhead Water District. See attached water master report for 2013

Unmet conditions:

029 *Prior to the diversion and use of water under this approval, the right holder shall comply with all fish screening and/or fish passage requirements of the Idaho Department of Fish and Game.*

I didn't find evidence of a fish screen in the photography for rights 75-19G or 75-21.

X60 *Place of use is located within Lots 11 and 20, Block 2, and Lot 5, Block 3 of Smedley Subdivision and one home in the NWNE Sec 11, T21N, R21E, which is outside Smedley Subdivision, but is inside the boundary for Arrowhead Water District.*

The place of use currently falls within the correct quarter quarters. However, the lot and block are not available for the taxlots and the locations of the houses are different from those described in the above condition.

J. RECOMMENDATIONS

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
Domestic	01/01 to 12/31	0.02 CFS	___ AF
	<u>Totals:</u>	0.02 CFS	___ AF

2. Recommended Amendments

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None

☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☒ None

K. AUTHENTICATION

Field Examiner's Name Sumit Thakur Date 8/21/2014

Reviewer _____ Date _____

Point of Diversion Overlap

Water Right	75-11A	EDWARDS, EUGENE F; EDWARDS, VIOLA M UNITED	CHIPPS CREEK		Water Right	75-14669	IRMAN R GOTT & BETTY L GOTT FAMILY	CHIPPS CREEK, POLLARD CANYON	X
Water Right	75-13100	STATES OF AMERICA ACTING UNITED	SPRING	X	Water Right	75-14670	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD CANYON	X
Water Right	75-13291	STATES OF AMERICA ACTING	CHIPPS CREEK	X	Water Right	75-14672	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD CANYON	X
Adjudication Recommendation	75-14465	ARROWHEAD WATER DISTRICT	CHIPPS CREEK	X	Water Right	75-14673	IRMAN R GOTT & BETTY L	CHIPPS CREEK, POLLARD	X
Water Permit	75-14467	ARROWHEAD WATER DISTRICT	CHIPPS CREEK	X	Water Right	75-14674	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X
Water Right	75-14467	ARROWHEAD WATER DISTRICT	CHIPPS CREEK	X	Water Right	75-14676	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X
Water Right	75-14648	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X	Water Right	75-14677	IRMAN R GOTT & BETTY L	CHIPPS CREEK, POLLARD	X
Water Right	75-14649	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X	Water Right	75-14678	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X
Water Right	75-14650	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X	Water Right	75-14680	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X
Water Right	75-14651	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X	Water Right	75-14681	IRMAN R GOTT & BETTY L	CHIPPS CREEK, POLLARD	X
Water Right	75-14653	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X	Water Right	75-14682	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X
Water Right	75-14654	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X	Water Right	75-14687	CUMMINGS, JON; CUMMINGS, MACHUGA, JOE;	CHIPPS CREEK, POLLARD	X
Water Right	75-14655	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X	Water Right	75-14688	MACHUGA, CUMMINGS, JON;	CHIPPS CREEK, POLLARD	X
Water Right	75-14656	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X	Water Right	75-14689	CUMMINGS, MACHUGA, JOE;	CHIPPS CREEK, POLLARD	X
Water Right	75-14658	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X	Water Right	75-14690	MACHUGA, CUMMINGS, JON;	CHIPPS CREEK, POLLARD	X
Water Right	75-14659	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X	Water Right	75-14691	CUMMINGS, MACHUGA, JOE;	CHIPPS CREEK, POLLARD	X
Water Right	75-14660	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X	Water Right	75-14692	MACHUGA, CUMMINGS, JON;	CHIPPS CREEK, POLLARD	X
Water Right	75-14661	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X	Water Right	75-14693	CUMMINGS, MACHUGA, JOE;	CHIPPS CREEK, POLLARD	X
Water Right	75-14663	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X	Water Right	75-14694	MACHUGA, ARROWHEAD WATER DISTRICT	CHIPPS CREEK	X
Water Right	75-14664	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X	Adjudication Claim	75-21	ARROWHEAD WATER DISTRICT	CHIPPS CREEK	X
Water Right	75-14665	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X	Adjudication Recommendation	75-21	ARROWHEAD WATER DISTRICT	CHIPPS CREEK	X
Water Right	75-14666	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X	Water Right	75-22	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X
Water Right	75-14668	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X	Adjudication Recommendation	75-5	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	X

Place of use

T21N R21E Section 1

Process	Basin Sequence	Owner	Source	NESW	NWSW	
Water Right	75-14467	ARROWHEAD WATER DISTRICT	CHIPPS CREEK	X	X	
Water Right	75-14649	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD CANYON CREEK	1.0		Irrigation for another property
Water Right	75-14651	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD CANYON CREEK	4.0		Irrigation for another property
Water Right	75-14654	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD CANYON CREEK	1.0		Irrigation for another property
Water Right	75-14656	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD CANYON CREEK	4.0		Irrigation for another property
Water Right	75-14659	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD CANYON CREEK	1.0		Irrigation for another property
Water Right	75-14661	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD CANYON CREEK	4.0		Irrigation for another property
Water Right	75-14664	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD CANYON CREEK	1.0		Irrigation for another property
Water Right	75-14666	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD CANYON CREEK	4.0		Irrigation for another property
Water Right	75-14668	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD CANYON CREEK	2.0		Irrigation for another property
Water Right	75-14669	IRMAN R GOTT & BETTY L GOTT FAMILY TRUST	CHIPPS CREEK, POLLARD CANYON CREEK	1.0		Irrigation for another property
Water Right	75-14672	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD CANYON CREEK	2.0		Irrigation for another property
Water Right	75-14673	IRMAN R GOTT & BETTY L GOTT FAMILY TRUST	CHIPPS CREEK, POLLARD CANYON CREEK	1.0		Irrigation for another property
Water Right	75-14676	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD CANYON CREEK	2.0		Irrigation for another property
Water Right	75-14677	IRMAN R GOTT & BETTY L GOTT FAMILY TRUST	CHIPPS CREEK, POLLARD CANYON CREEK	1.0		Irrigation for another property
Water Right	75-14680	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD CANYON CREEK	2.0		Irrigation for another property
Water Right	75-14681	IRMAN R GOTT & BETTY L GOTT FAMILY TRUST	CHIPPS CREEK, POLLARD CANYON CREEK	1.0		Irrigation for another property
Water Right	75-14687	CUMMINGS, JON; CUMMINGS, NANCY	CHIPPS CREEK, POLLARD CANYON CREEK	10.5		Irrigation for another property
Water Right	75-14688	MACHUGA, JOE; MACHUGA, SANDY	CHIPPS CREEK, POLLARD CANYON CREEK	2.9		Irrigation for another property
Water Right	75-14689	CUMMINGS, JON; CUMMINGS, NANCY	CHIPPS CREEK, POLLARD CANYON CREEK	10.5		Irrigation for another property
Water Right	75-14690	MACHUGA, JOE; MACHUGA, SANDY	CHIPPS CREEK, POLLARD CANYON CREEK	2.9		Irrigation for another property
Water Right	75-14691	CUMMINGS, JON; CUMMINGS, NANCY	CHIPPS CREEK, POLLARD CANYON CREEK	10.5		Irrigation for another property
Water Right	75-14692	MACHUGA, JOE; MACHUGA, SANDY	CHIPPS CREEK, POLLARD CANYON CREEK	2.9		Irrigation for another property
Water Right	75-14693	CUMMINGS, JON; CUMMINGS, NANCY	CHIPPS CREEK, POLLARD CANYON CREEK	10.5		Irrigation for another property
Water Right	75-14694	MACHUGA, JOE; MACHUGA, SANDY	CHIPPS CREEK, POLLARD CANYON CREEK	2.9		Irrigation for another property
Water Right	75-19G	ARROWHEAD WATER DISTRICT	CHIPPS CREEK		X	Irrigation for another property
Water Right	75-22	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD CANYON CREEK	20.6	38.0	Irrigation for the subdivision
Water Right	75-7568	ARROWHEAD WATER DISTRICT	GROUND WATER	X	X	Domestic for other houses within the subdivision

Place of Use

T21W R21E Section 2

Process	Basin Sequence	Owner	Source	POD/ POU	SESE	
Water Right	75-14215	GRAVES, DIXIE	WASTE WATER	POU	X	Recreation and aesthetic storage for pond no overlap
Water Right	75-14467	ARROWHEAD WATER DISTRICT	CHIPPS CREEK	POU	X	
Water Right	75-19G	ARROWHEAD WATER DISTRICT	CHIPPS CREEK	POU	X	Domestic water right for other property. Nominal shape overlaps place of use
Water Right	75-22	ARROWHEAD WATER DISTRICT	CHIPPS CREEK, POLLARD	POU	40.0	Irrigation: this right provides irrigation for the subdivision

Arrowhead Water District Field Exam 08/25/2008

Exam conducted by Monica Van Bussum of IDWR

Accompanied by Bob Kramer, Chairman of Arrowhead Water Dist, and Gary Leuzinger, Member of Arrowhead Water Dist



This photo
is not part
of the system
for 75-1467

- Included
to show
source

Photo taken at lower elevation below the low end of Arrowhead Water Dist's reservoir. Center of photo shows outlet of reservoir dumping into Arrowhead's Pollard Creek diversion ditch. Arrowhead's Pollard Creek diversion ditch (next picture) comes in from right of where this picture was taken.



Photo shows the two intakes for Arrowhead Water Dist's rights. The intake in the background is the intake for Arrowhead's domestic rights. The water goes through a small culvert into a gravel trough where it is filtered, and then travels into Arrowhead's piped domestic system. The foreground diversion is for Arrowhead's irrigation rights, which are then distributed through its reservoir system.

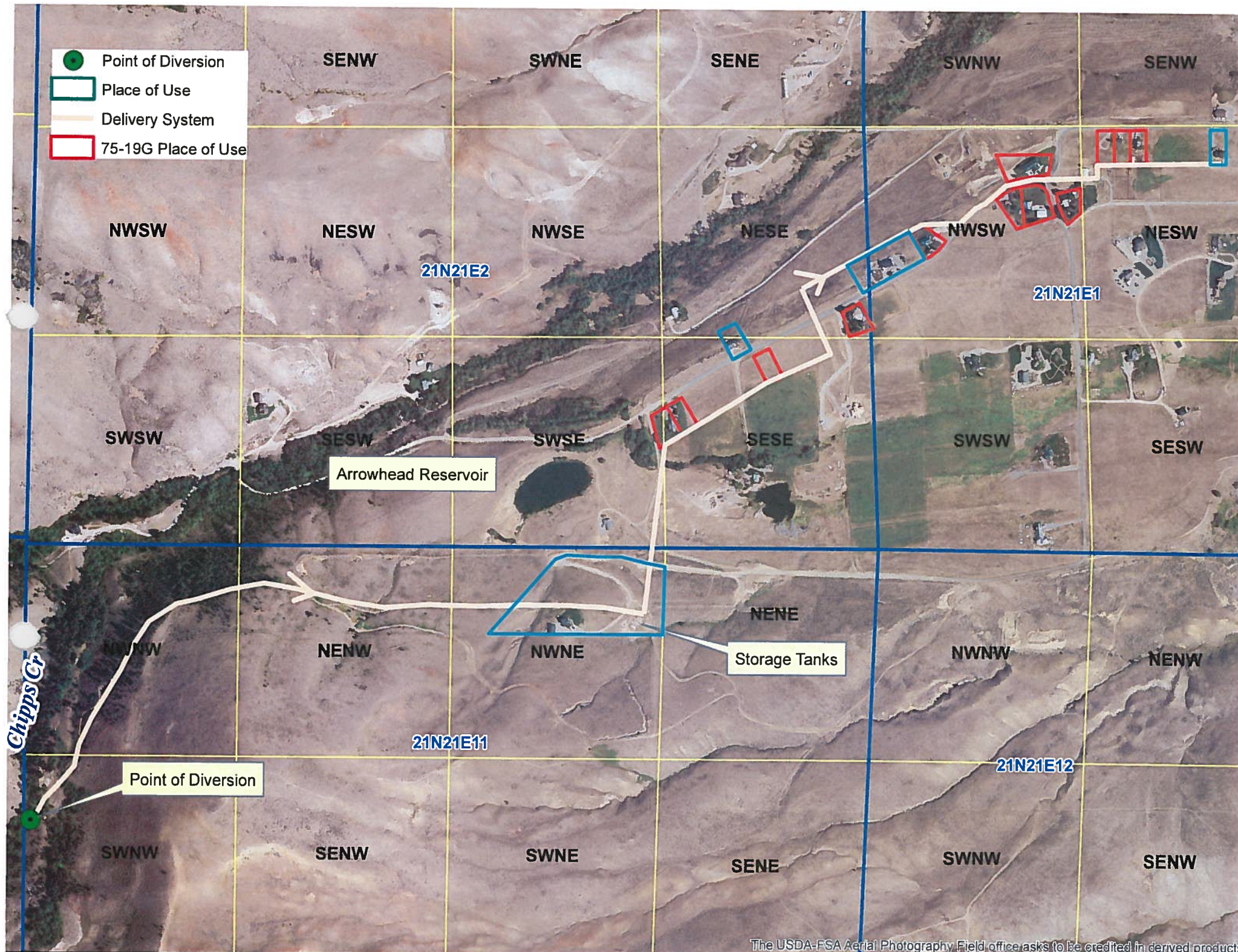
Taken from field
Exam for 75-196



Photo shows Arrowhead Water Dist's gravel filtration for its domestic right. The pipe from the Chipps Creek diversion can be seen in the center background. The pipe dumps water into this gravel "trough," where it is collected in the 2-inch pipe that then goes to serve the homes.



Photo showing Arrowhead's gage for its domestic right from Chipps Creek. Per Gary Lysinger, member of Arrowhead Water Dist, the watermaster told him this usually carries between 30 and 40 gpm. There is a 2-inch pipe going into and coming out of this gage.



WATERMASTER'S REPORT

RECEIVED

MAR 21 2013

DEPARTMENT OF
WATER RESOURCES

RECEIVED

MAR 27 2013

Department of Water Resources
Eastern Region

From 4/01, 20 12 To 10/31

Water District No. 75A

Name of Watermaster GREG LOWELL

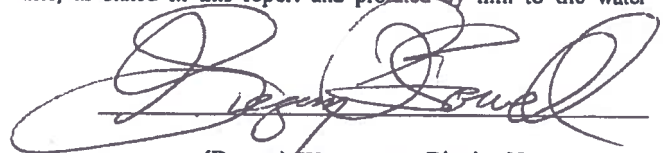
P.O. Address 307 STATE ST SALMON, ID 83467

AFFIDAVIT OF WATERMASTER

STATE OF IDAHO

COUNTY OF Lemhi ss.

GREG LOWELL, being first duly sworn, deposes and says that he is Watermaster of Water District 75A, having been lawfully appointed by GARY SPACKMAN, Director, Idaho Department of Water Resources, and that the volumes of water, as stated in this report and prorated by him to the water right holders of the district are correct.



(Deputy) Watermaster District No. _____

Subscribed and sworn to before me, this 14th day of December, 20 12.



(SEAL)

Mary Benton
Notary Public

My Commission expires 4/19/2017

Salmon
Boise, Idaho, 12/14, 20 12

I HEREBY CERTIFY, that Greg Lowell was lawfully appointed by me as Water Master of Water District No. 75A, and that the information contained in this report, as herein sworn to, is, to the best of my knowledge and belief, correct.


Director, Department of Water Resources

By Jennifer Davis

Revised Watermaster Delivery Format

WR OWNER	IDWR #	POD NAME	Total Delivery 24 hour sec.ft.
Edwards	75-2,10046,10047,2162	#1 Chipps	640
AWD	75-19G,21,4467	#2d Chipps domestic	15
AWD	75-14465,14491	#2i Chipps irrigation	54
AWD	75-22,5	#8 Pollard storage/irrigation	216
City of Salmon	75-17A,19B,114,7	#5 Jesse 1740AF	1318
	17B,10075,19C,26A,4,2167,1 4700,14701,15700,7563,	#3 Chipps, #4 Pollard, #5 Jesse	
	Total measured by meter		
Power, Haddock	75-01B,13B,01A,18A	#6 Jesse	12
Proksch,Goodman, Benedict	75-00014,14063	#9 flood and headgate problems	
Gaver,Morgan, Power,Skunberg, Boese, Austin, Blackadar,R., Blackadar L., Bills, Petrick,Wallingford,	75-14533-14536, 14125,11614,14123,14124, 10475,113C,113A, 19H, 19D,113B	#7 Jesse Lateral aka Farmers	1570
Engle, Lyon,Ruscilli, Webb, Tilford	75-14144, 10676, 14607, 10774, 10491	Jesse Ck, Section 6 total .15 cfs	high water,waste water

RECEIVED

MAR 27 2013

Department of Water Resources
Eastern Region

District 75A water usage by diversion 2012-2013

RECEIVED

DEC 24 2013

Department of Water Resources
Eastern Region

Owner	POD #	24 hour second feet	Acre feet per day	Days	Total acre feet	%
Edwards	1	1.36	1.36	210	286	9.1
Arrowhead**	2 irrigation	0.26	0.26	210	55	1.7
Arrowhead**	2 domestic 4,905,000 ga*	0.063	0.063	210	15	0.5
Jesse Lateral Ditch Assoc. aka Farmers Ditch	7	6	6	210	1260	39.3
Power / Haddock	6	0.14	0.14	210	30	0.9
City of Salmon	5 432,513,000 ga*	6.35	6.35	210	1335	41.7
Arrowhead**	8 irrigation	1.04	1.04	210	216	6.8
					3197	100
**Arrowhead total % equals 9%	*based on meter readings - all others based on periodic flow readings extrapolated for 2013 season					
	Note; Winter diversion pod # 1 Edwards 29AF total pod #2d AWD 9.1 gpm 6 AF total pod# 5 City of Salmon 900AF total this is derived by meter readings at pond entrance and includes significant spillage of diverted water back to Jesse Creek from holding ponds) NOT ACTUAL USAGE					

all extrapolated numbers are approximations based on periodic readings

Edl, Michele

From: Van Bussum, Monica
Sent: Tuesday, July 14, 2009 8:07 AM
To: Edl, Michele
Subject: FW: Chipps Creek Dam (aka: Arrowhead Reservoir)
Attachments: 75-14465-(2009-07-13)-TR.pdf

Good morning! At our request, John Falk did a preliminary site visit of Arrowhead Water District's reservoir from Jesse Creek. John's report also mentions Dixie's Pond, which I believe is the one under permit.

Monica

From: Shaff, Don
Sent: Monday, July 13, 2009 6:25 PM
To: Baxter, Garrick; Van Bussum, Monica
Subject: FW: Chipps Creek Dam (aka: Arrowhead Reservoir)

The information below appears critically important in the equation of a water right at this facility. I would suggest at some point in the SRBA, IDWR may want to file a NAP until the owner of the dam is in compliance with IDWR rules for Safety of Dams.
Thanks,

Don Shaff
(208)287-4921
don.shaff@idwr.idaho.gov
Happiness is a journey, not a destination.

From: Falk, John
Sent: Monday, July 13, 2009 5:41 PM
To: Shaff, Don
Cc: Galloway, Chuck; Hornbaker, Sonny; Swank, Lyle
Subject: Chipps Creek Dam (aka: Arrowhead Reservoir)

Don, attached is my trip report for the referenced dam (IDWR file 75-14465).

The project appears to exceed the statutory size (10' height), and thus would be considered a State of Idaho jurisdictional dam.

The project does not have an emergency spillway or other means to prevent overtopping of the embankment. Because developed property is located immediately downstream, we recommend that this existing structure not be licensed, nor any other type of water right be issued until such time this necessary feature has been installed to the satisfaction of the dam safety section.

Please let me know if you have any questions. Thanks --jf--

7/14/2009



Dam Safety Section

TRIP REPORT

TO: Dam File 75-14465
FROM: John Falk, PE
DATE: July 13, 2009
SUBJECT: Chipps Creek Reservoir

Reviewed: 

On Thursday 6/25/09, I visited the referenced off-channel impoundment located ~100 feet south of Oliver Drive in Salmon, ID (Photo 1). The weather was mostly sunny, warm, and dry. Based on my site observations, the dam consists of an earthen structure constructed near the base of a long, northeast sloping hill in Section 2, T21N, 21E, Lemhi County. The structure appears to have been built by the "cut and fill" method using native soils excavated from the reservoir and placed in a perimeter berm against the hillside. The exposed fill materials are composed predominately of reworked glacial outwash (clay/ silt → rounded cobbles up to 20" diameter). The age of the structure is unknown, but the size of trees growing on the north downstream slope suggest at least 15-20 years.

The reservoir apparently is filled by a combination of surface runoff from hillside drainage and water from a developed artesian spring (Photo 2). Flow into the reservoir at the time of the site visit was 30 gpm, or less. An emergency spillway did not appear to exist; neither could I locate a low level outlet conduit. Seepage was evident along the north and east, downstream toe of the embankment. Discharge rates were difficult to estimate due to a long strip of rounded river-rock that had been placed adjacent to Oliver Drive. This coarse gravel appears to function as a "French Drain" for the express purpose of diverting leakage from the reservoir away from the roadway (Photo 3). All seepage from the dam appeared to flow toward a common point at the downstream toe where it was routed into a small drainage ditch, presumably for irrigation purposes (Photo 4).

Design drawings apparently do not exist. Based on inspection and observation, the following dimensions were obtained for the existing dam and reservoir:

- | | | |
|-------------------------|-------------------------|---------|
| • Embankment Height * | 15 feet (est) | Photo 5 |
| • Crest Width | 40 feet (tape-measured) | |
| • Freeboard | 1 foot (est) | Photo 6 |
| • Downstream Slope | 4H:1V (est) | |
| • Pool Surface Area | 4 acres (est) | Photo 7 |
| • Reservoir Capacity ** | 30 acre-feet | |

* Measured from top of dam to downstream toe at maximum section

** Volume calculated using formula [(Height x Surface Area) x 0.5] ; does not include subgrade storage

I also investigated the drainage path below the dam. A single residence on Oliver Drive exists in close proximity to the dam. In the event of a catastrophic dam failure and sudden release of reservoir contents, this property likely would experience significant flooding damages. A smaller, more shallow, and younger reservoir is located about one-quarter mile downstream. It appears that flood water from a catastrophic failure of the upper dam likely would overtop this pond, resulting in its failure. For these two reasons, the existing upper structure is rated a Significant-hazard dam.

This project exists at an elevated risk for failure due to 1) the lack of an emergency overflow spillway to prevent overtopping of the embankment and 2) the absence of a low-level outlet conduit that could be used to lower or to drain the reservoir in the event of an emergency. Lastly, the lack of design drawings or construction details, together with the seepage along the toe of the slope contributes to my concern regarding the integrity of the embankment.

I recommend this dam be modified to include the installation of an emergency overflow spillway. Issuance of a formal Water Right to the owner(s) of this dam should not be approved until such repair is implemented to the satisfaction of IDWR Dam Safety. In the interim, this structure will be added to the state inventory of dams for regular inspection.



Photo 1 – Aerial view showing reservoir and its relationship to Oliver Drive. Note the location of the residence near the intersection of Oliver Drive and Sacajawea Road.



Photo 2 (6/25/09) - Upstream view from dam crest looking across the reservoir to the primary source of water, supplied by a developed, artesian spring (shown by arrow).



Photo 3 (6/25/09) - Oliver Road, looking east along the north side of the existing embankment. Seepage from the toe of the slope is collected in the gravel drain material (shown by arrow). Note the heavy growth of trees and brush on the downstream slope of the dam.



Photo 4 (6-25-09) - Facility for collection of seepage from the dam. This feature exists on the east side of the embankment. At the time, the rate of flow in the ditch (right) was estimated ~20-25 gpm.



Photo 5 (6/25/09) - View looking at the downstream slope of the dam near maximum section. Note the location of Oliver Road (right), and the heavy growth of vegetation on north side of the embankment.



Photo 6 (6/25/09) - View from the back of the reservoir looking east, toward the crest of the embankment. Note the elevated water level referenced by the submerged vegetation.

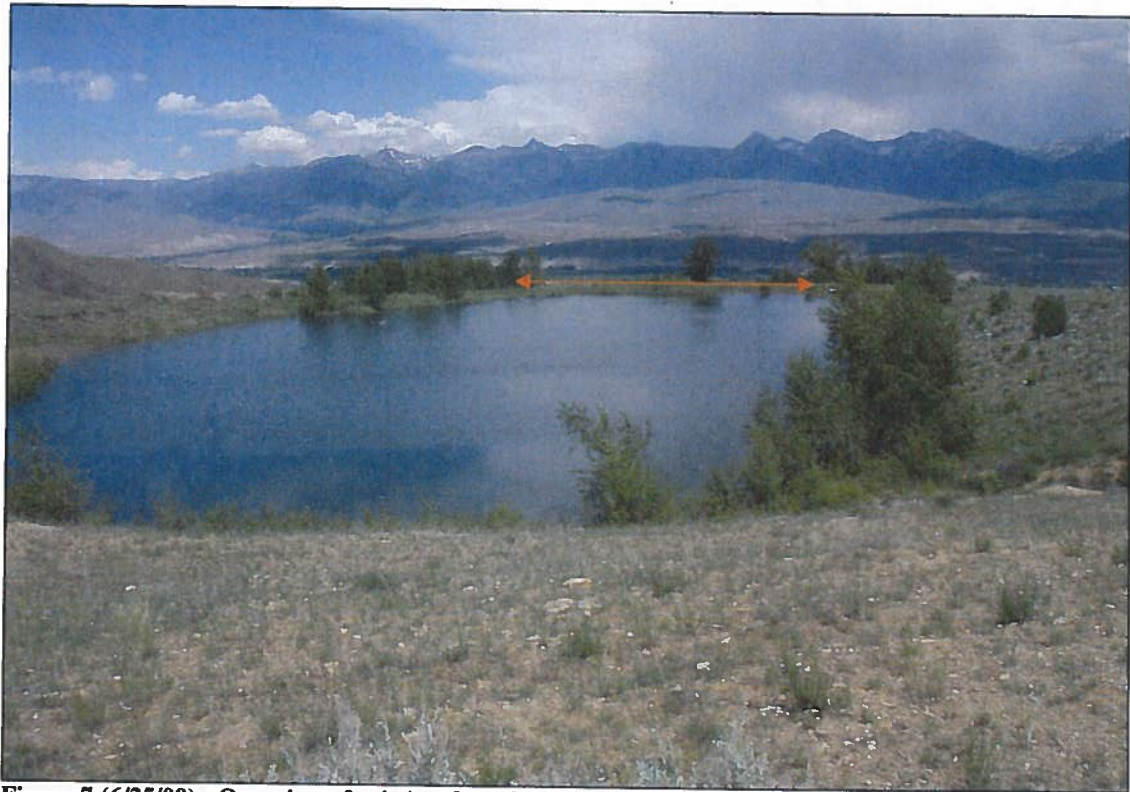


Figure 7 (6/25/09) - Overview of existing dam (background) and reservoir. The treed area in the photograph right-front corner is the channel carrying water from the spring to the reservoir.

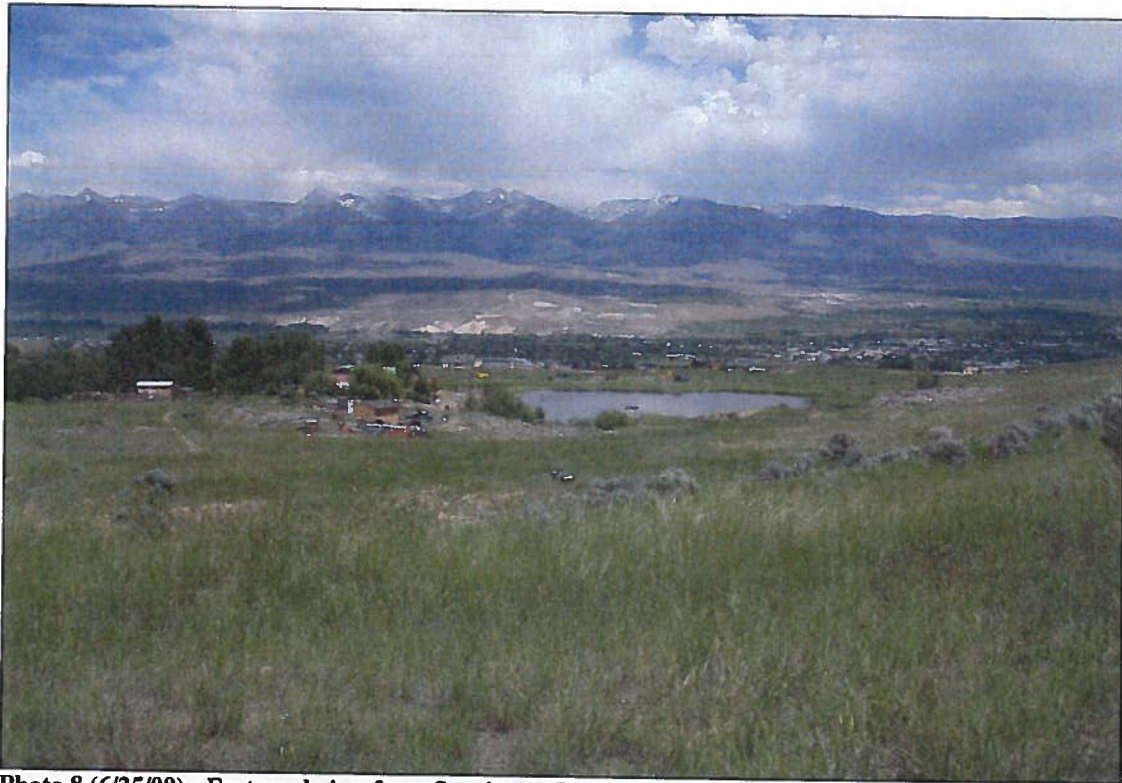


Photo 8 (6/25/09) - Eastward view from Sacajawea Road, located near downstream toe of existing (Chipps) dam. The small pond in the foreground lies within the inundation zone of the existing dam.

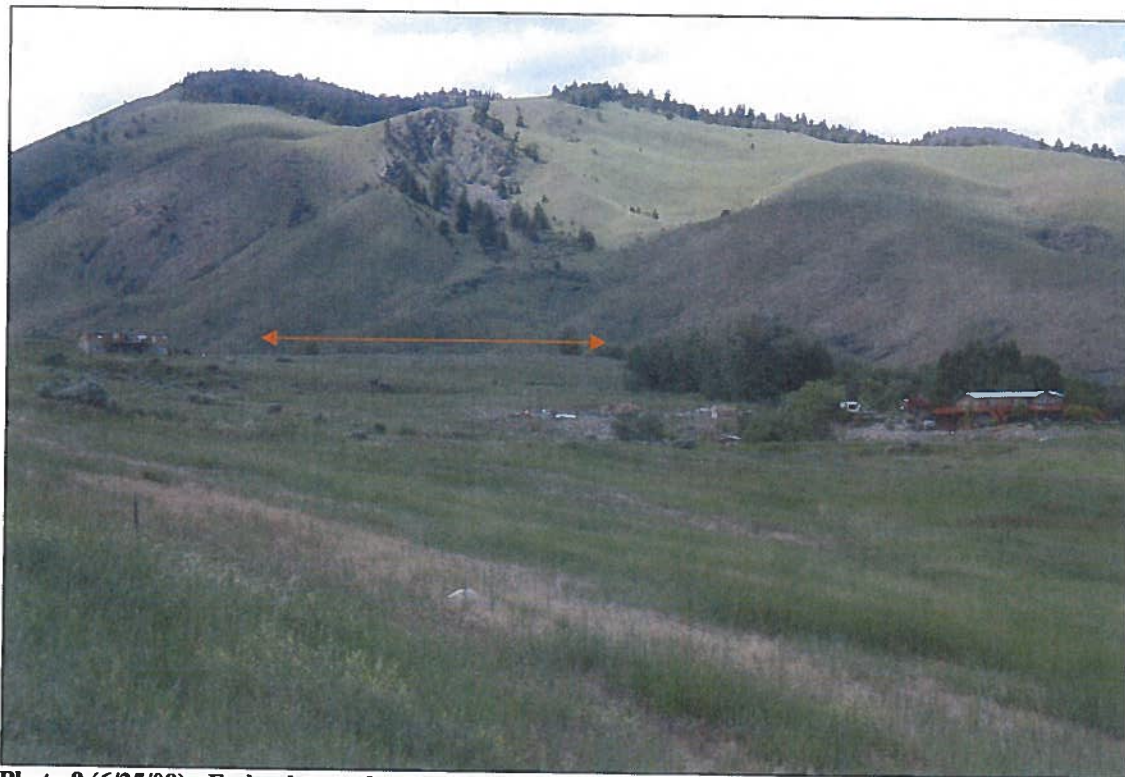


Photo 9 (6/25/09) - Embankment from a downstream vantage point. The crest is highlighted with a colored line stretched above its length. In foreground is the small pond (shown above).